

No. 2015-1812

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

UNWIRED PLANET, LLC,

Appellant,

v.

GOOGLE INC.,

Appellee.

Appeal from the United States Patent and Trademark Office,
Patent Trial and Appeal Board
No. CBM2014-00006

APPELLANT'S OPENING BRIEF

William M. Jay
Eleanor M. Yost
GOODWIN PROCTER LLP
901 New York Avenue NW
Washington, DC 20001
Tel.: 202.346.4000
Fax.: 202.346.4444

Brett Schuman
David Zimmer
GOODWIN PROCTER LLP
Three Embarcadero Center
24th Floor
San Francisco, CA 94111
Tel.: 415.733.6000
Fax.: 415.677.9041

Counsel for Appellant Unwired Planet, LLC

Dated: November 13, 2015

CERTIFICATE OF INTEREST

Counsel for Appellant Unwired Planet, LLC, William M. Jay, certifies the following:

1. The full name of every party or amicus represented by me is:

Unwired Planet, LLC

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

N/A

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

Unwired Planet IP Manager, LLC, and Unwired Planet IP Holdings, Inc., directly and wholly own Unwired Planet, LLC. The ultimate parent corporation of Unwired Planet, LLC is Unwired Planet, Inc., a publicly traded company.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in the court are:

Goodwin Procter LLP: William Jay, Brett Schuman, Eleanor Yost, David Zimmer Schwegman, Lundberg & Woessner, P.A.: Timothy E. Bianchi, Thomas C. Reynolds

/s/ William M. Jay
William M. Jay
Goodwin Procter LLP
901 New York Avenue NW
Washington, DC 20001
Tel.: 202.346.4000
Fax.: 202.346.4444

*Counsel for Appellant Unwired
Planet, LLC*

Dated: November 13, 2015

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STATEMENT OF RELATED CASES

Consolidated cases 15-1810 and -1811, currently being briefed before this Court, involve the same parties as this case, and arise from an Inter Partes Review and Covered Business Method Review heard before the same panel of the Patent Trial and Appeal Board on the same day as the proceedings appealed from in this case, but involve different PTAB proceeding numbers, a different patent, and different legal issues. Accordingly, Nos. 15-1810 and -1811 do not appear to meet the definition of related cases in Fed. Cir. R. 47.5. Counsel for Appellant are not aware of any other potentially related case.

TABLE OF ABBREVIATIONS

'752 patent	U.S. Patent No. 7,203,752 B2
AIA	Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011)
CBM	Covered Business Method
IPR	Inter Partes Review
PTAB	Patent Trial and Appeal Board
PTO	Patent and Trademark Office
UP	Unwired Planet

JURISDICTIONAL STATEMENT

This is an appeal of the Patent Trial and Appeal Board’s Final Written Decision in No. CBM2014-00006, issued on April 6, 2015. Unwired Planet (“UP”) timely filed a notice of appeal on June 5, 2015. A458-60. This Court has jurisdiction over this appeal under 35 U.S.C. § 141(c) and 28 U.S.C. § 1295(a)(4)(A). This Court’s jurisdiction extends to reviewing whether the PTAB has exceeded the limits on its authority by invalidating a patent that claims no covered business method. *See Versata Development Group, Inc. v. SAP America, Inc.*, 793 F.3d 1306, 1318-23 (Fed. Cir. 2015) (explaining why 35 U.S.C. § 324(e) does not bar review in such cases).

STATEMENT OF ISSUES ON APPEAL

1. Whether the PTAB erred in holding that the ’752 patent claims a covered business method—a method for performing “operations used in the practice, administration, or management of a financial product or service”—merely because the one of the myriad uses of the claimed method is advertising.
2. Whether the PTAB erred in holding that claims 25-29 of the ’752 patent are unpatentable under the “abstract ideas” exception to § 101 eligibility when they recite a concrete and narrow method for controlling access to the location of a wireless device.

STATEMENT OF THE CASE

I. **The '752 Patent Discloses A Concrete Method For Controlling Access To The Location Of A Mobile Device By Allowing Subscribers To Control Access To Their Location Information Using A Specific Type Of Subscriber Profile.**

The '752 patent claims a concrete method for addressing a new privacy concern that emerged well into the mobile-phone era, as location-based services became available for mobile phones and other wireless communications devices. In their most common form, location-based services allow the user of a mobile phone to retrieve data based on that user's location, such as information about businesses in the user's general vicinity. A472(1:36-46).

As the '752 patent recognized, the mobile phone user's location information may be useful to others as well as to the user. First responders, businesses, other organizations, or even individuals may want to access the location information of mobile phone users—for instance, to determine an emergency caller's location; to track the location of employees; or to send information to potential customers. A472(1:47-56); A477(11:3-20).

But providing businesses and other network users with real-time access to the location information of mobile phone users presents significant new privacy concerns. Mobile phone users generally will not want to be traceable by just anyone, and will not want to be traceable everywhere they go and at every hour of the day. A472(1:60-2:1). Instead, a mobile phone user may want to limit access to

her location information based on myriad factors, including the type of organization seeking her location, the specific organization seeking her location, where she is, when the request is made, or even her own whim at the time the request is made. *Id.*

The '752 patent's innovation was to balance mobile users' concern for the privacy of the location information that their mobile devices generate with businesses' interest in accessing that information for useful purposes; the patent strikes that balance by using a subscriber profile with a specific format to regulate which businesses can access each subscribers' location information, and under what circumstances, from the "data cache" or "location server" on which subscribers' location information is stored, A477(12:36). The method is based on creating a "subscriber profile" for each mobile user, where the "subscriber profile" is "a set of limitations on the provision of location information corresponding to the wireless device, based upon the privacy preferences of the wireless device user." A7-8. Each "subscriber profile" must include both a list of businesses with permission to receive location information, and spatial and/or temporal limitations on when those businesses can receive that location information. A479(16:23-29). If a business not on the subscriber profile makes a request for location information, or a business on the profile makes a request outside the spatial and/or temporal limitations specified in the subscriber profile, then the business will be denied

access to the subscriber's location information. *Id.* (16:32-40). The subscriber is notified of the denial, and the subscriber profile is updated to give permission to the business to access location information after subsequent requests. *Id.* (16:41-46).

Independent claim 25 and dependent claims 26-29 of the '752 patent recite this method. Those claims state:

- 25.** A method of controlling access to location information for wireless communications devices operating in a wireless communications network, the method comprising:
- receiving a request from a client application for location information for a wireless device;
 - retrieving a subscriber profile from a memory, the subscriber profile including a list of authorized client applications and a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information;
 - querying the subscribe profile to determine whether the client application is an authorized client application;
 - querying the subscriber profile to determine whether the permission set for the client application authorizes the client application to receive the location information for the wireless device;
 - determining that the client application is either not an authorized client application or not authorized to receive the location information; and
 - denying the client application access to the location

information.

26. The method of claim **25** further comprising:

notifying the wireless device that the client application is not authorized to receive the location information; and

updating the subscriber profile to authorize the client application to receive the location information during subsequent requests.

27. The method of claim **26** wherein updating the subscriber profile is performed by a subscriber.

28. The method of claim **26** wherein updating the subscriber profile comprises updating the permission set for the client application.

29. The method of claim **28** wherein the permission set comprises at least one of a temporal permission set, a spatial permission set, a granularity filter, or a notification instruction.

A479(16:18-55). As discussed below, *see* notes 2, 3, p. 34, *infra*, only claims 26-29 are at issue in this appeal, as UP is not appealing the PTAB's invalidation of claim 25 on different grounds.

II. The PTAB Institutes A CBM Review, Concluding That The '205 Patent Is A Covered Business Method Patent Solely Because It Could Be Used For, Among Other Things, Advertising.

On October 9, 2013, Google filed a petition requesting review of claims 25-29 of the '752 patent under the transitional program allowing covered business method ("CBM") review of qualifying patents, established as part of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284 (2011).

The PTAB instituted a CBM review to consider, as most relevant here, whether

claims 25-29 are unpatentable under 35 U.S.C. § 101 because they fall under the judicially created exception encompassing “abstract ideas.”¹ A44-45. The PTAB declined to institute review to consider whether claims 26-29 are obvious. A48-61. And in a simultaneous decision, the same panel of the PTAB denied Google’s petition to institute an *inter partes* review (IPR) to decide whether claims 26-29 are anticipated by the prior art or obvious on various different grounds. *Google Inc. v. Unwired Planet, LLC*, Case IPR2014-00037, slip op. at 8-16 (PTAB Apr. 8, 2014) (Paper 9).²

In its institution decision, the PTAB rejected UP’s submission that the ’752 patent is not eligible for CBM review. A40-44. A patent can be challenged in a CBM proceeding only if it meets the AIA’s definition of a “covered business method patent”: “a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” AIA § 18(a)(1)(E), (d)(1), 125 Stat. 331. Although the PTO issued a regulation with a definition for a “[c]overed

¹ The PTAB also instituted review to consider whether claim 26 lacked written description support, A45-48, but ultimately concluded that claim 26 is supported by the written description, A16-22.

² The PTAB did institute both an IPR and a CBM review on the question whether claim 25 of the ’752 patent is anticipated (in the IPR) or obvious (in the CBM review), but that claim is no longer at issue here. *See note 3, infra*.

business method patent,” the regulation simply parrots the language in the AIA.

See 37 C.F.R. § 42.301(a).

The PTAB concluded that the ’752 patent is a covered business method patent eligible for CBM review, solely because one of the many uses of the claimed method is “incidental or complementary to the financial activity of service or product sales.” A42. Relying on the legislative history statement of one Senator, the PTAB wrote that the term “financial product or service” should be “interpreted broadly” and should cover patents “claiming activities that are financial in nature, incidental to a financial activity or complementary to a financial activity.” A41. The PTAB then noted that one of the many applications of claim 25 is for use by “a service provider or a goods provider” that “wants to know a wireless device is in its area so relevant advertising may be transmitted to the wireless device.” A42. Because, according to the PTAB, one use of claim 25 is advertising, the PTAB concluded that “claim 25 of the ’752 patent is incidental or complementary to the financial activity of service or product sales,” and that claim 25 is thus “directed to a method for performing data processing or other operations used in the practice, administration, or management of a financial product or service.” *Id.*

III. In The CBM Proceeding, The PTAB Concludes Claims 25-29 Of The '752 Patent Are Unpatentable Under § 101 Because They Claim An “Abstract Idea.”

In its Final Written Decision, the PTAB concluded that Claims 25-29 are unpatentable because they claim only an “abstract idea.”³ The PTAB applied the two-step analysis from *Alice Corp. Pty. Ltd v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014), asking (1) whether the claims are “directed to” an abstract idea, and, (2) if so, whether “additional elements [of the claim] transform the nature of the claim into a patent-eligible application.” A23 (quoting *Alice*, 134 S. Ct. at 1297).

The PTAB first concluded that claims 25-29 are directed to “the abstract idea of controlling access to location information using a subscriber profile.” A24. This idea, according to the PTAB, is “similar” to the kind of “organizing human activity” at issue in the Supreme Court’s decisions in *Bilski* (hedging investments) and *Alice* (mitigating settlement risk by using an intermediary), A24, as well as this Court’s decisions in *Content Extraction and Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1345 (Fed. Cir. 2014) (“basic concept of data recognition and storage”) and *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (offering copyrighted media in exchange for watching an advertisement), A26.

³ The PTAB also concluded that claim 25 is obvious, A8-15, and in the separate IPR proceeding, the PTAB concluded that claim 25 is anticipated by the prior art, *Google Inc. v. Unwired Planet, LLC*, Case IPR2014-00037, slip op. at 8 (PTAB Apr. 6, 2015) (Paper 28). UP is not appealing those decisions.

The PTAB then held that claims 25-29 lacked elements that transform the nature of the claim into a patent-eligible application of an abstract idea, because “the claimed subject matter does not do anything more than simply instruct the practitioner to implement the abstract idea of controlling access to location information on generic technology.” A27-28. Although the PTAB had previously refused to institute review concerning whether claims 26-29 are anticipated or obvious, the PTAB concluded, without any citation, that the use of the specific type of subscriber profile in the claims to protect the privacy of location information was a “‘well-understood, routine, conventional activity’ previously known to the industry.” A29 (quoting *Content Extraction*, 776 F.3d at 1347-48).

SUMMARY OF ARGUMENT

1. The ’752 patent cannot be invalidated in a CBM proceeding. This is not a financial patent; instead it deals with a method of limiting access to a mobile telephone user’s location information using a specific type of subscriber profile. To deem the patent eligible, the PTAB made a number of errors: (1) It used a definition that comes from the floor statement of a single senator, and ignored key limitations in the actual statutory language that carefully circumscribe the scope of CBM review. (2) It relied on the recitation in the *specification* that the invention could be useful to a business interested in, among other things, advertising. The PTAB concluded that the claimed method was “incidental” to advertising, and that

advertising in turn was “incidental” to the financial service of sales. But the statute directs the PTAB to look at the *claims* to see whether a patent is for “operations . . . used in the practice, administration, or management of a financial product or service.” And (3) the PTAB never explained how the actual claims could even be used for advertising, when those claims include the limitation that the request for location information be *denied*. The PTAB stretched its review jurisdiction far beyond what the statute authorizes: the statute does not give the PTAB jurisdiction over method patents involving strategies for the use of gift baskets, ballpoint pens, or other goods and services that *could* be used by advertisers, among others. The PTAB simply had no authority to review or invalidate the challenged claims.

2. The ’752 patent does not claim an abstract idea. Patents are only “abstract,” and hence invalid, when they claim basic ideas that form “the building blocks of human ingenuity.” *Alice*, 134 S. Ct. at 2354. Although a patent claiming an abstract idea cannot be saved by applying the idea to an “unspecified, generic computer,” *id.* at 2360, patents are valid if they provide a solution that “is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257-58 (Fed. Cir. 2014). Unlike patents claiming the computerized application of basic ideas like risk hedging or recognizing and storing data, the ’752 patent addresses a problem specific to the

realm of mobile telephone technology: how to balance mobile telephone subscribers' privacy interests in their real-time, electronic location information with institutions' interests in accessing that location information for valid reasons that may be useful to the subscriber. And the patent provides a concrete and limited solution: it identifies one of many potential methods for managing access to subscribers' location information (subscriber profiles), and claims only one version of the method it describes (subscriber profiles with client-based permission sets that include a spatial and/or temporal limitation). It is hard to imagine a more concrete method for solving the modern problem the '752 patent identifies.

ARGUMENT

I. The Patent Does Not Claim A Covered Business Method, Because The Claimed Method Has No Connection To Any “Financial Product Or Service.”

A. Standard Of Review

Whether the '752 patent claims a covered business method turns on statutory interpretation, which is reviewed *de novo*. *E.g., In re McGrew*, 120 F.3d 1236, 1237 (Fed. Cir. 1997). As discussed below, the PTAB is entitled to no deference in defining a covered business method. Even if it complies with the statute, the PTAB's decision cannot stand if it rests on arbitrary and capricious decision-making. *Dickinson v. Zurko*, 527 U.S. 150, 164 (1999).

B. The PTAB Decision Attempted To Broaden The Definition Of A Covered Business Method By Ignoring Limitations That Appear In Both The Statutory Text And The Implementing Regulation.

To qualify as a covered business method, the claimed method must be a method “for performing data processing or other operations,” and those operations must be “used in the practice, administration, or management of a financial product or service.” Satisfying those specific statutory limitations requires more than just some nebulous relationship to “a financial product or service.” This Court has previously held that a financial product or service is not limited to products or services of the financial-services *industry*, but also includes other “finance-related activities.” *Versata*, 793 F.3d at 1325. But here, as discussed above, the PTAB effectively read the term “financial” out of the statute, because claim 25 of the ’752 patent does not speak to *any* monetary matters, even in the most general terms.

The definition of “covered business method patent” that the PTAB used in this case ignores the limitations enacted by Congress and purports to reach much more broadly, to cover “patents ‘claiming activities that are financial in nature, incidental to a financial activity, or complementary to a financial activity.’” A42; *see* A41. For instance, the PTAB appeared to hold that anything enabling a business to advertise goods or services for sale is “incidental or complementary to [a] financial activity.” A42. That definition nullifies the textual requirements of “operations,” “use,” and “practice, administration, or management.” In fact, it is

not based on the text at all, but on the statement of a single senator. *See A41* (citing 77 Fed. Reg. 48,735 (in turn quoting 157 Cong. Rec. S5432 (daily ed. Sept. 8, 2011) (statement of Sen. Schumer))). “[T]he authoritative statement is the statutory text, not the legislative history or any other extrinsic material. Extrinsic materials have a role in statutory interpretation only to the extent they shed a reliable light on the enacting Legislature’s understanding of otherwise ambiguous terms.” *Exxon Mobil Corp. v. Allapattah Servs., Inc.*, 545 U.S. 546, 568 (2005). “[T]he views of a single legislator, even a bill’s sponsor, are not controlling.” *Mims v. Arrow Fin. Servs., LLC*, 132 S. Ct. 740, 752 (2012). Individual Members of Congress made conflicting statements regarding the scope of CBM review. The only thing that 393 Members of Congress and the President evidently did agree on was the text.⁴

By crediting the legislative history over the text, the PTAB’s definition is fatally flawed. But as discussed below, *even under the PTAB’s definition*, the ’752 patent claims nothing involved in a financial product or service.

⁴ And the text does not match the breadth of Senator Schumer’s floor statement—which is exactly the reason that Senator Schumer introduced the Patent Quality Improvement Act of 2013, S. 866, 113th Cong. (2013). That bill would have expanded the scope of the CBM statute to remove its limitation to only “financial” patents. Unlike the current text, the bill would have opened up CBM review to patents used in an “enterprise, product or service.” *Id.* (emphasis added). But that bill was not adopted.

C. The '752 Patent Fails Any Definition Of A Covered Business Method Patent, Because It Claims Wireless Network Technologies That Have No Particular Relation To Financial Products Or Services.

The PTAB's conclusion that the '752 patent claims a covered business method rests entirely on one limitation of claim 25: "client application." The PTAB identified nothing about this claim language that pertains in any way to financial products or services. The PTAB nonetheless held this patent to claim a covered business method, for demonstrably erroneous reasons.

As an initial matter, the PTAB identified nothing about the *claims* that would make this patent a covered business method patent. It certainly identified no aspect of the claimed method that constitutes an "operation[] used in the practice, administration, or management of a financial product or service." Instead, the method concerns managing a "client application" request for location information about wireless devices—*regardless* of the type of client application.

Effectively conceding that the "client application" limitation of claim 25 is not enough on its own to confer "covered business method patent" status, the PTAB improperly looked *past the claims* to *examples* in the specification to bolster its analysis. That is impermissible under the statute, which required the PTAB to focus on what the patent "claims." AIA § 18(d)(1); *see* 77 Fed. Reg. at 48,736 (acknowledging that the statute bases CBM eligibility "on what the patent claims"). Indeed, as discussed further below, the PTAB has held in other cases

that if the elements that satisfy the CBM definition do not appear in the claims, the patent does not claim a covered business method. *See, e.g., ServiceNow Inc. v. Hewlett-Packard, Co.*, Case CBM2015-00108, slip. op. at 16-17 (PTAB Oct. 7, 2015) (“*ServiceNow ’860*”) (Paper 10) (holding that “it is insufficient simply to show how the claims may be mapped to a financial embodiment in the specification,” because “[a]t most, this shows that the claimed system *could* be used in a financial product or service”) (emphasis in original)); *J.P. Morgan Chase & Co. v. Intellectual Ventures II LLC*, Case CBM2014-00160, slip op. at 6–12 (PTAB Jan. 29, 2015) (Paper 11).

Instead of looking to the claims, the PTAB looked to the specification to support the notion that a “client application” *could* be a service provider whose business is geographically oriented. A42 (citing A477(11:12-13)).⁵ The

⁵ The PTAB did *not* accept Google’s argument that it could stop right there, on the theory that a “geographically oriented” service provider *might* be a bank. A41. That, the PTAB stated, was not “a relevant analysis.” A42. The PTAB was correct in that respect. A “service provider whose business is geographically oriented” can just as easily be a “hotel, restaurant, and/or store,” A477(11:15), or literally anything else. And “financial product or service” cannot be just a product or service that any business can use in exactly the same way. See pp. 16-17, *infra*. To read the definition that way would be to read the term “financial” out of the statute; the only non-covered business methods would be those from which financial institutions are specifically excluded. That is entirely inconsistent with the demonstrable legislative intent that CBM review be tied to an “industry definition,” and not cover “technologies common in business environments across sectors and that have no particular relation to the financial services sector.” 157 Cong. Rec. S5441 (daily ed. Sept. 8, 2011) (statement of Sen. Leahy). While the “industry” is not just banks, it is still limited to the “broader industry” such as

specification makes clear that “the client application may comprise *any number* of services provided by registered organizations,” A477(11:1-3), and it gives three wide-ranging examples. The first example, which the specification cites “in particular,” is “emergency services” such as police or fire departments “trying to respond to an emergency call.” *Id.* (11:3-8). Another example is “a business which wishes to periodically track the locations of [its] employees.” *Id.* (11:18-20). Neither example is in any way financial.

The Board did not acknowledge these examples. Instead, it fixated on the third one—“service or goods providers whose business is geographically oriented,” which “may want to know” when “a wireless communications device is in the area of a particular hotel, restaurant, and/or store, . . . so relevant advertising may be transmitted to the wireless communications device.” *Id.* (11:12-17). But as the other, quite different examples show, the use by a “geographically oriented” business is at most an “illustrative embodiment.” The analysis should have stopped there. *See ServiceNow ’860*, Paper 10 at 17-18 (merely “illustrative . . .

“insurance, brokerages, mutual funds, annuities, and an array of financial companies outside of traditional banking,” 157 Cong. Rec. S5441 (daily ed. Sept. 8, 2011)—all things that are traditionally understood as truly “financial.” Similarly, Senator Kyl explained how the AIA was intentionally “*limited*” to patents “relat[ing] to a financial product or service” at the “request” of “other industry groups,” thus restricting the PTAB’s jurisdiction to patents concerning “products or services that are particular to or characteristic of financial institutions.” 157 Cong. Rec. S1379 (daily ed. Mar. 8, 2011) (emphases added).

embodiments” not sufficient to trigger CBM review). Including examples of the “*any* number of services” that could be provided by *any* registered organizations does not make the claimed “client application” “financial” in nature.

Even if the PTAB were right to fixate on the possible use by a “geographically oriented” business, that use does not claim a “method . . . for performing data processing or other operations used in the practice, administration, or management of a financial product or service.” The PTAB emphasized that the client application might want the location information to send advertising. And the PTAB apparently concluded that advertising is necessarily “incidental or complementary to the financial activity of service or product sales.” A42. Even if “service or product sales” qualifies as a “financial product or service,” and even if advertising qualifies because it is “incidental” to that product or service,⁶ nothing in the claims covers selling anything to anyone, advertising anything to anyone, or even transmitting anything to the wireless device.

Thus, this patent does not meet even the “incidental” standard the PTAB used. The PTAB reasoned that advertising is incidental to sales, and (apparently) that identifying nearby targets is incidental to advertising. But even the PTAB’s extremely lenient standard does not cover a non-financial activity that is incidental to *another* non-financial activity that, in turn, is incidental to a financial activity.

⁶ Both of those points are refuted above. *See pp. 11-16, supra.*

Even a single level of “incidental” already twists the statutory language; *two* levels of “incidental” would tear it to shreds. A corner sandwich shop may set out a plastic bowl collecting business cards, offering a drawing for a free sandwich (and using the email addresses it collects for advertising). But a patent claiming the method of manufacture of the plastic bowl is not being used in a “financial product or service.”

Here the patent *itself* cuts off that chain of doubly contingent speculation. In claim 25, the only claim the PTAB examined (A40-42), practicing the patented method results in “*denying* the client application access to the location information.” A479(16:39-40) (emphasis added); *see also* A16-A19 (addressing when the “*denying*” step may occur). Thus, no one receives any location information. It follows that no advertising is transmitted and no service or product is sold to that user as a result of practicing the patented method. The PTAB never even attempted to explain how anyone could use the *denial* of access to a subscriber’s location information in order to advertise (which could then possibly lead to sales).⁷

In short, there is nothing remotely “financial” about what the network administrator does in practicing the patented method. The administrator merely

⁷ In the dependent claims at issue here, the subscriber profile is then updated following the denial of access, but the PTAB did not suggest that anything in the dependent claims made the patent a covered business method patent.

responds to requests for location information. The closest the method comes to “finance” is the possibility that *some* of the requesters might want the location information to help them make money someday.

D. The PTAB’s Determination That The ’752 Patent Claims A Covered Business Method Is Not Entitled To Deference.

The PTAB’s misapplication of the statutory definition of a covered business method cannot be rescued by appealing to concepts of agency deference. As an initial matter, courts may not defer to an agency’s interpretation that conflicts with the statute by reading elements out of it. *See, e.g., Carcieri v. Salazar*, 555 U.S. 379, 391 (2009) (duty to “give effect, if possible, to every word Congress used” made the statute unambiguous and ruled out deference) (internal quotation marks omitted); *Chevron U.S.A., Inc. v. NRDC*, 467 U.S. 837, 842-43 (1984) (“If the intent of Congress is clear, that is the end of the matter . . .”). But even if the statute were ambiguous, the PTAB’s interpretation here would still be due no deference. First, the statute gives the agency no interpretive authority except through notice-and-comment rulemaking, and here the PTO expressly *declined* to interpret the statute during rulemaking. Instead the PTO merely parroted the statutory definition, foreclosing any claim to deference that the PTAB might make. Second, the PTAB’s decision here would not qualify for deference in any event: it is squarely contrary to the statute, and it is inconsistent with the PTO’s own decisions, making it arbitrary and capricious *per se*.

The Patent Act specifies how the PTO is to prescribe “the conduct of proceedings in the Office”: through “regulations, not inconsistent with law,” that are “made in accordance with section 553 of title 5,” the Administrative Procedure Act’s provision for rulemaking pursuant to notice and comment. 35 U.S.C. § 2(b)(2). As this Court has said, “[t]he exercise of the Patent Office’s authority under 35 U.S.C. § 2 is subject to its compliance with 5 U.S.C. § 553.” *Cooper Technologies Co. v. Dudas*, 536 F.3d 1330, 1336 (Fed. Cir. 2008). Significantly, the PTAB has no authority to make rules through adjudication—and it did not do so here, as its institution decision is not precedential. A PTAB decision in a proceeding briefed by only two parties cannot substitute for notice and comment open to all.

The AIA did not relax that rule or allow informal interpretation of the limits of CBM review. To the contrary, Section 18 of the AIA sets out the CBM definition in the statute and makes no mention of administrative interpretation; by contrast, the *exception* to that definition (for “technological invention[s]”) is to be implemented by the PTO. AIA § 18(d)(2). And that limited grant of authority, too, requires the PTO to “issue regulations,” *id.*, pursuant to notice-and-comment rulemaking.

The PTO opted *not* to interpret the CBM definition through rulemaking (except as to the “technological invention” exception, which UP does not address

here). Instead, its regulation, 37 C.F.R. § 42.301(a), merely parrots the statutory definition and “adds nothing to [this Court’s] understanding of the scope question.”

Versata, 793 F.3d at 1323. The regulation therefore is entitled to no deference.

See Gonzales v. Oregon, 546 U.S. 243, 257 (2006) (“just repeat[ing] the] statutory phrases” in a regulation “gives little or no instruction” about their meaning); *accord Sursely v. Peake*, 551 F.3d 1351, 1354-55 (Fed. Cir. 2009).

Having decided not to render an interpretation through rulemaking, the PTO certainly cannot attempt to claim deference to statutory interpretations handed down in ad hoc, non-precedential PTAB decisions. *See United States v. Mead Corp.*, 533 U.S. 218, 232 (2001) (denying deference where agency had some power to interpret the law through notice-and-comment rulemaking but instead issued a less formal classification ruling); *see generally Brand v. Miller*, 487 F.3d 862, 869 n.3 (Fed. Cir. 2007) (“[T]he Board does not earn *Chevron* deference on questions of substantive patent law”). Non-precedential PTAB decisions bind no one but the parties, and the statutory authority to resolve particular disputes is not the same thing as the statutory authority to render binding legal interpretations. *Mead Corp.*, 533 U.S. at 232-233.

This Court referred briefly to deference in *Versata*, but did not actually decide the case on that basis. Rather, it agreed with the PTAB “as a matter of statutory construction,” and it concluded that the patent claimed a method (relating

to pricing) that “f[e]ll well within the terms of the *statutory* definition” because pricing is itself financial. 793 F.3d at 1325-26 (emphasis added). There was no need to reach broadly for claims “incidental” or “complementary” to a financial product or service. After setting out its entire reasoning, the Court stated as an aside: “Furthermore, the expertise of the USPTO entitles the agency to substantial deference in how it defines its mission. Congress recognized this by its broad delegation of rulemaking authority in the establishment and implementation of this transitional post-grant review proceeding. *See* § 18(a)(1).” *Id.* That observation provides no basis for deference here: as already discussed, Congress delegated *no* rulemaking authority over the definition of a CBM, only over the “technological invention” exception. And any interpretive authority Congress *did* delegate required notice and comment. *See* AIA § 18(a)(1), (d)(1)-(2). *Versata* did not address these points.

Even where an agency has the authority to interpret a statute through adjudication, an agency undermines its claim to deference when it has taken conflicting positions on the same issue—especially when the agency fails to acknowledge the conflict. *See, e.g., INS v. Cardoza-Fonseca*, 480 U.S. 421, 446 n.30 (1987); *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) (“An agency may not, for example, depart from a prior policy *sub silentio* . . .”).

The PTAB performed exactly that type of silent, unacknowledged flip-flop

here. The PTAB’s broad interpretation of “covered business method patent” in this case as encompassing inventions of general utility does not square with its own decisions *declining* to institute review under Section 18 in similar circumstances.

See, e.g., ServiceNow ’860, Paper 10 at 16-18; *ServiceNow, Inc. v. BMC Software, Inc.*, Case CBM2015-00107, slip op. at 2 (PTAB Sept. 11, 2015) (“*ServiceNow ’107*”) (Paper 12); *Sony Corp. of Am. v. Network-1 Techs., Inc.*, Case CBM2015-00078, slip op. at 8–13 (PTAB July 1, 2015) (Paper 7); *SEGA of Am., Inc. v. Uniloc USA, Inc.*, Case CBM2014-00183, slip op. at 11–13 (PTAB Mar. 10, 2015) (Paper 11); *Roxane Laboratories, Inc. v. Jazz Pharmaceuticals, Inc.*, Case CBM2014-00161, slip op. at 19 (PTAB Feb. 9, 2015) (Paper 16) (patented method was not a CBM because it “ha[d] no particular relation to the financial services industry and does not relate to just a financial product or service *rather than to an enterprise, i.e., a conventional business organization*”); *Salesforce.com, Inc. v. Applications in Internet Time LLC*, Case CBM2014-00162, slip op. at 9–10 (PTAB Feb. 2, 2015) (Paper 11); *Par Pharmaceutical, Inc. v. Jazz Pharmaceuticals, Inc.*, Case CBM2014-00149, slip op. at 10-24 (PTAB Jan. 13, 2015) (Paper 12); *J.P. Morgan Chase*, Paper 11 at 6–12; *PNC Fin. Servs. Group, Inc. v. Intellectual Ventures I LLC*, Case CBM2014-00032, slip op. at 6–15 (PTAB May 22, 2014) (Paper 13).

In *ServiceNow ’107*, the PTAB found that a method for diagnosing and

identifying error conditions in networks was not a covered business method, even though the patent's specification disclosed an embodiment applying the method to ATMs connected to a central bank through a satellite communications system. *Servicenow '107*, Paper 12 at 10-11. The PTAB found that the patent specification emphasized the ATM enterprise *was an illustration* of how the method *could be* applied, but that the claimed technique had no *particular* applicability to financial products or services:

Although Petitioner explains how claim 79 encompasses the ATM embodiment described in the Specification, Petitioner *does not identify any limitation of claim 79 that is specific to ATMs or any other financial product or service.* We agree with Patent Owner that claim 79 is not specific to any particular type of network, but is instead a method of general applicability for fault analysis. Likewise, none of the other claims of the '683 patent are specific to ATMs or any other finance-related product, service, or activity.

Id. (emphasis added). Thus, the Board determined that the patent did not qualify as a covered business method patent under Section 18.

Likewise, in *Par*, all of the challenged patents related to distributing a prescription drug via the checking, controlling, shipping, and mailing of prescription drugs *for a fee*. *Par*, Paper 12 at 12. According to the panel, *the claims* at issue in *Par* “d[id] not recite a product or service particular to or characteristic of financial institutions such as banks, insurance companies, and investment houses,” and the petitioner in *Par* did “not analyze the claim language...to explain how the claim language recites method steps involving the

movement of money or extension of credit in exchange for a product or service...,” *id.* As a result, the PTAB ruled that the patent did not claim a “covered business method.”

In two more recent cases, *Salesforce.com* and *J.P. Morgan Chase*, the PTAB concluded that the underlying patent did not qualify as covered business method patents because although the claimed subject matter could be applied to financial activities, *it was not limited to financial activities*. For example, in *Salesforce.com*, the patent claims were directed to technology common in business environments across sectors and were not tied to financial services. *Salesforce.com*, Paper 11 at 9–10. Similarly, the patent in *J.P. Morgan Chase* was directed to secure communications that could cover various types of transactions besides financial transactions. *J.P. Morgan Chase*, Paper 11 at 6–12. In both cases, the PTAB recognized that though the patent *specifications* disclosed financial activity applications, there was no evidence that these references to financial services in the specification *limited the scope of the claims*. As a result, the PTAB denied institution under Section 18 in both instances.

In *SEGA*, the PTAB reached a similar conclusion when it reviewed a patent related to the creation and verification of unique user software licenses. *SEGA*, Paper 11 at 11–13. The claimed system compared local and remote keys to determine if the user was allowed unrestricted use of the software. The petitioner

there argued the patent was a “covered business method patent” because the specification disclosed a registration process that required payment information. *Id.* The PTAB rejected this argument, and explained that in the context of the claimed system, payment details, including a credit card number, *are not themselves financial transactions* but are simply information unique to each user. *Id.*

In all of these cases, the PTAB denied institution under Section 18 when the claims under review bore no “*particular relation[ship]* to the financial services sector.” *J.P. Morgan Chase*, Paper 11 at 8 (emphasis added).⁸ That approach is the correct one, and the PTAB should have followed it here; had it done so, it could not possibly have instituted the CBM review. The PTAB’s failure to follow the path other panels had consistently marked out dooms any claim to deference and makes its decision arbitrary and capricious.

For all of these reasons, the PTAB’s determination that the ’752 patent qualifies as a “covered business method patent” should be reversed. This Court therefore need not reach the merits of the final written decision.

⁸ These cases are merely examples. The PTAB has reached similar conclusions in other cases as well. See, e.g., *Sony*, Paper 7 at 10-11 (“Claim 23 describes a method of remotely powering access equipment, *without any particular connection* to financial products or services.” (emphasis added)); *PNC*, Paper 13 at 10 (claims described “software systems that have general utility not specific to any application”).

II. Claims 25-29 Recite A Concrete, Not Abstract, Solution For Addressing A Problem Specific To Wireless Devices.

A. Standard Of Review

Patent eligibility under 35 U.S.C. § 101 is a question of law that this Court reviews *de novo*. *SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1331 (Fed. Cir. 2010) (“Whether a patent claim is drawn to patent-eligible subject matter is an issue of law that we review *de novo*.”); *Tempo Lighting, Inc. v. Tivoli, LLC*, 742 F.3d 973, 976-77 (Fed. Cir. 2014) (this Court “reviews the Board’s legal conclusions *de novo*”).

B. Methods Are Unpatentable If They Recite Pre-Internet Business Practices To Be Performed On The Internet, But Not If They Provide Solutions Rooted In Computer Technology To Overcome A “Problem Specifically Arising In The Realm Of Computer Networks.”

Section 101 defines the subject matter that may be patented to include “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. A “process” includes a “process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.” 35 U.S.C. § 100(b). “In choosing such expansive terms . . . modified by the comprehensive ‘any,’ Congress plainly contemplated that the patent laws would be given wide scope.” *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). Courts have carved out three exceptions to “§ 101’s broad patent-eligibility principles: ‘laws of nature, physical

phenomena,” and the exception relevant here—“abstract ideas.” *Bilski v. Kappos*, 561 U.S. 593, 601 (2010) (quoting *Chakrabarty*, 447 U.S. at 309).

In *Bilski*, the Supreme Court rejected an attempt to categorically classify “business method patents”—patents that claim a particular method of carrying out a business—as unpatentable “abstract ideas.” The Court reasoned that the patent statute defines the word “process” to include a “method,” and “the Court is unaware of any argument that the ordinary, contemporary, common meaning of ‘method’ excludes business methods.” 561 U.S. at 607 (internal quotation marks and citations omitted). Thus “a business method is simply one kind of ‘method’ that is, at least in some circumstances, eligible for patenting under § 101.” *Id.*

While the Supreme Court affirmed the general validity of business method patents, it also clarified, both in *Bilski* and again in *Alice Corp. Pty Ltd. v. CLS Bank Intern.*, 134 S. Ct. 2347 (2014), that companies cannot patent “abstract ideas.” *Bilski*, 561 U.S. at 611. Thus in *Bilski*, the Court held that a patent claiming the use of a computer to carry out the “basic concept of hedging, or protecting against risk,” was invalid. *Id.* The Court looked to basic economic texts and concluded that hedging “is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class.” *Id.* Similarly in *Alice*, the Court held that using a computer to carry out the concept of “intermediated settlement, i.e., the use of a third party to mitigate settlement risk,”

was an unpatentable abstract idea. 134 S. Ct. at 2356. As in *Bilski*, the Court looked to classic texts to conclude that “intermediated settlement,” like hedging, is “a fundamental economic practice long prevalent in our system of commerce.” *Id.* That the patent claimed a “generic computer implementation” of intermediated settlement was irrelevant, because all the patent claimed was “an instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer.” *Id.* at 2360.

The Court in *Alice*, drawing from its prior decision in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), described a two-part test for determining whether a patent claims only an unpatentable “abstract idea.” First, courts “determine whether the claims at issue are directed to” an abstract idea. *Alice*, 134 S. Ct. at 2355. If a patent is directed to an “abstract idea,” courts turn to the second step, and consider whether the claims contain an “inventive concept—*i.e.* an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.” *Id.* (internal quotation marks and alterations omitted). In *Alice*, the Court warned that in applying this test courts should “tread carefully” in searching for abstract ideas “lest [the concept] swallow all of patent law”: “At some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Id.* at 2354. An

invention is therefore not “ineligible for patent simply because it involves an abstract concept,” but only if it claims “the building blocks of human ingenuity.” *Id.* (internal quotation marks and alterations omitted).

In several post-*Alice* cases, this Court has applied *Alice* to invalidate patents that do nothing more than describe a common human activity and implement it using an “unspecified, generic computer.” 134 S. Ct. at 2360. For instance, in *Content Extraction and Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343 (Fed. Cir. 2014), the Court held that the concept of “data collection, recognition, and storage” is an unpatentable abstract idea even when applied by a computer because “humans have always performed these functions.” *Id.* at 1347. In *OIP Technologies, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015), the Court held that using a generic computer to implement “offer based pricing” is not patentable because “offer based pricing” is a “fundamental economic concept” similar to hedging and intermediated settlement. *Id.* at 1362. And in *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014), the Court held that “showing an advertisement before delivering free content” is an unpatentable “abstract idea” even if carried out over the Internet. *Id.* at 715. The patent involved nothing more than a particular form of barter: “a method of using advertising as an exchange or currency.” *Id.*

In stark contrast, in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245

(Fed. Cir. 2014), this Court found patentable a method whereby a host website that advertised a third-party website could allow the user to access the third-party's website's contents while remaining on the host website. *Id.* at 1248-49. The Court did not address whether this patent claimed an "abstract idea," but held that even if it could be characterized as an abstract idea, the claims "satisfy *Mayo/Alice* step two." *Id.* at 1257. The Court held that unlike in cases like *Ultramercial*, the claims at issue do not "merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet," but instead provide a solution that "is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *Id.* at 1257-58. Thus the claims at issue are patentable.

Thus, under *Alice*, a patent cannot simply transfer a pre-computer idea to a computer, or a pre-Internet idea to the Internet. But because *Bilski* declined to categorically reject business method patents, under *DDR* business method patents are valid if they use computer or Internet technology in order to solve a problem that arose for the first time in the context of computers and/or the Internet.

C. The Claimed Method Is Not Abstract, But Involves A Concrete Computer-Based Solution To A Problem Specifically Arising In The Realm Of Computer Networks.

The claimed method at issue in this case is not an elemental and longstanding "building block[] of human ingenuity" like the methods at issue in

Bilski and *Alice*. Instead, it is a concrete method for resolving a particular problem that first arose with the development of networks hosting wireless devices: how to balance organizations' interest in obtaining the location information of devices on the network with the privacy concerns of those using the devices. The claims address the problem with a concrete solution: using a subscriber profile that includes specific types of restrictions on access to location information. And the solution claimed in claims 26-29 solves that problem in a way sufficiently novel that the PTAB did not think Google could prove it was anticipated or obvious over the prior art.

The PTAB's attempt to cast this solution to a network problem as an "abstract idea" fails. The abstract idea it identifies—"controlling access to location information using a subscriber profile"—misses the specificity both of the problem and the claimed solution. Nor, even accepting the PTAB's characterization, is that purportedly abstract idea a "building block of human ingenuity" similar to hedging (*Bilski*), intermediated settlement (*Alice*), or collecting, recognizing, and storing data (*Content Extraction*). The '752 patent therefore does not threaten to inhibit innovation. Instead, the claimed method is exactly the type of innovative method in a new technological area that *Bilski* intended to preserve. The Supreme Court rejected the notion that business methods are unpatentable; yet as the PTAB's flawed reasoning shows, the PTAB invalidated this method patent on grounds that

would likely invalidate any business method patent.

1. The PTAB contended that the relevant “abstract idea” is “controlling access to location information using a subscriber profile.” A24. In fact, the ’752 patent addresses a specific method for solving a problem that only arose with the advent of wireless devices. The PTAB’s attempt to characterize the invention as abstract missed both the specificity of the problem and the solution.

Most obviously, the PTAB’s characterization fails to recognize that the patent’s invention does not apply to locations generally, but only location information generated by *wireless devices*. See A479(16:18-20) (claiming method of “controlling access to location information *for wireless communications devices*” (emphasis added)); *see also* A7-A8 (construing “subscriber profile” as “a set of limitations on the provision of location information *corresponding to the wireless device*, based on the privacy preferences of the *wireless device user*” (emphases added)). Although an abstract idea like hedging that can be used “in all fields” does not become patentable simply by “limiting [the] abstract idea to one field of use,” *Bilski*, 561 U.S. at 612, the abstract idea the PTAB identified has absolutely no use outside the new technology of wireless devices. There was simply never a need to “control[] access to location information” in an era before wireless devices because an individual’s location was not readily accessible beyond line-of-sight. Knowledge of location could not be controlled—made selectively available—until

it became available as location *information*, which is accessed using networks, data caches, and servers, rather than eyeballs.

Not only is the problem the patent addressed specific and new, the patent's solution is also concrete, not abstract. Access could be controlled in numerous ways: for instance, a subscriber could be prompted to approve or deny each request for her location information; there could be categorical restrictions on access based on the identity of the requesting organization or the location of the subscriber; or there could be a limited set of privacy plans subscribers could join that include parameters for limiting access to location information. The patent does not claim those methods, or any of the myriad other methods for limiting access to location information, but instead claims only the use of a subscriber profile.

Nor does the patent even claim *all* use of subscriber profiles, but instead only claims a profile that "includ[es] a list of authorized client applications and a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information."

A479(16:23-29). Subscriber profiles that do not contain individualized permission sets, or whose permission sets do not contain a spatial and/or temporal limitation on access, are not covered. Further, because UP is not appealing the PTAB's rejection of claim 25 on obviousness grounds, the claimed method is made even

more concrete by claim 26, which requires that the wireless device be notified of a denied request for location information, and the subscriber profile be updated to authorize future requests for such information. A479(16:41-46). The patent therefore claims a very concrete method for addressing a problem specific to wireless devices; contrary to the PTAB’s characterization of the claimed method, it does not claim a generally-applicable abstract idea transplanted to the wireless device arena.

Because the claimed method is concrete, not abstract, it does not threaten to “tie up” a “building block[] of human ingenuity,” which is the “concern that drives” the judicial carve-out of “abstract ideas” from § 101. *Alice*, 134 S. Ct. at 2354. Whereas allowing a patent to claim all use of a computer to prevent hedging, intermediated settlement, collection and recognition of data, or offer-based pricing would “inhibit human discovery” by barring the use of widely-known, abstract concepts, the patent at issue focuses on a specific and concrete method for balancing privacy interests and the usefulness of location information through one type of subscriber profile. Further, that specific invention was novel; the PTAB concluded Google did not even have a reasonable likelihood of proving that claims 26-29 are anticipated or obvious over the prior art, rejecting all four of Google’s proffered obviousness combinations. A48-64; p. 6, *supra*. The ’752 patent’s limited and original invention does not bar methods of balancing

organizational and privacy interests through something other than the specific type of subscriber profile recited in the claims. *See DDR*, 773 F.3d at 1259 (claims patentable in part because they “do not attempt to preempt every application of the idea of increasing sales by making two web pages look the same,” but instead “recite a specific way” to achieve that outcome).

2. Even accepting the PTAB’s characterization of the claimed method, “controlling access to location information using a subscriber profile” is still not an “abstract idea” as the Supreme Court intended in *Bilski* and *Alice*. The PTAB never explained how it could characterize that supposedly “abstract idea” as a “fundamental” or even a “longstanding” practice. A “subscriber profile” is a far newer concept than escrow.

The Supreme Court emphasized how hedging and intermediated settlement were “fundamental economic practices” that had been around for centuries, and the Court cited to classic economic texts to support its conclusions. *See Bilski*, 561 U.S. at 612; *Alice*, 134 S. Ct. at 2356 (citing 1896 text on intermediated settlement). Although this Court’s cases have not always cited texts to demonstrate the “fundamental” nature of an abstract idea, its cases have only applied *Alice* when the claimed ideas are general and where “humans have always performed [the claimed] functions,” *Content Extraction*, 776 F.3d at 1347. It has thus invalidated patents claiming on concepts like recognizing and storing data

(*Content Extraction*), bartering (*Ultramercial*), and offer-based pricing (*Amazon.com*).

Here, the PTAB gave absolutely no explanation as to how “controlling access to location information using a subscriber profile” is in any way “fundamental” or a “building block[] of human ingenuity,” *Alice*, 134 S. Ct. at 2354, or a function humans have “always performed,” *Content Extraction*, 776 F.3d at 1347. In fact, the term “subscriber profile” was sufficiently non-fundamental that it was a term the PTAB had to construe for itself. A7-A8. The PTAB did not even acknowledge the declaration of Unwired Planet’s expert, Christopher Kingdon, who explained why the claims at issue do not claim an abstract idea. *See* A1204-07. Without any attempt at explaining how “controlling access to location information using a subscriber profile” is “fundamental,” the PTAB cannot validly characterize “controlling access to location information using a subscriber profile” as an abstract idea.

By characterizing the patent as claiming an “abstract idea,” the PTAB did exactly what the Supreme Court warned against in *Alice*: failing to recognize that “[a]t some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” 134 S. Ct. at 2354. This is particularly true in the context of business methods, which will inevitably be somewhat more abstract than, say, a method for producing a particular drug. *See*

DDR, 773 F.3d at 1259 (recognizing that even a patentable business method does “not recite an invention as technologically complex as an improved, particularized method of digital data compression”). Nevertheless, the Supreme Court in *Bilski* explicitly refused to hold that business methods are categorically unpatentable abstract ideas. The patent at issue here is as concrete as any business method patent could be: it addresses a problem specific to a particular industry (wireless device networks), identifies a particular type of solution (subscriber profiles), and claims only one version of that general type of solution (subscriber profiles with client-based permission sets that include a spatial and/or temporal limitation). The patent therefore does not claim an abstract idea.

3. The PTAB instead emphasized the lack of a “concrete or tangible form” for the invention. A25 (citation omitted). And it repeatedly adverted to the fact that the patent claims methods of “organizing human activity.” A24, A25, A26. But the Supreme Court specifically declined to adopt Justice Stevens’s view that a method of organizing human activity should not be patentable. *Bilski*, 561 U.S. at 607; compare *id.* at 617, 628 (Stevens, J., concurring in judgment) (repeatedly alluding to the concept that “organizing human activity” should not be patentable). As the Supreme Court majority wrote, “Concerns about attempts to call any form of human activity a ‘process’ can be met by making sure the claim meets the requirements of § 101.” 561 U.S. at 603. There are methods of

organizing human activity that are not abstract ideas. This is one of them.

D. Even If The Claimed Method Involves An Abstract Idea, It Is Patentable Under *DDR* Because That Idea Uses Computer Technology To Address A Problem Unique To A New Technological Area.

Even if the '752 patent does somehow claim an abstract idea, it is still patentable under the second step in the *Alice* framework because it includes an "inventive concept." Under this Court's decision in *DDR*, even claims based at some level on an abstract idea are patentable if they are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." 773 F.3d at 1257. The '752 patent falls squarely within this holding.

As described above, the claims at issue in *DDR* address the problem of retaining website visitors that, under normal circumstances, would instantly leave a host website after clicking on an advertisement. 773 F.3d at 1257. The patent claimed a method whereby an "outsource provider" has a web server which directs the visitor who clicks an advertisement to an automatically-generated hybrid web page that combines visual "look and feel" elements from the host website and product information from the third-party merchant's website related to the clicked advertisement. *Id.* The court held that these claims are patentable under the second prong of the *Alice* test. It distinguished cases like *Ultramercial* because the claims at issue in *DDR* "do not broadly and generically claim 'use of the internet'

to perform an abstract business practice (with insignificant added activity).” *Id.* at 1258. Similarly, the claims do not “recite a commonplace business method aimed at processing business information, applying a known business process to the particular technological environment of the Internet, or creat[e] or alter[] contractual relations using generic computer functions and conventional network operations, such as the claims in *Alice* [and] *Ultramercial*.” *Id.* at 1259. Instead of “merely recit[ing] the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet,” the “claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* at 1257.

DDR’s holding applies equally to this case. Like the claims in that case, the claims from the ’752 patent at issue here do not recite a pre-Internet business practice and apply it to the Internet. Instead, they address a problem specific to the new technology of wireless devices: regulating access to location information of wireless devices. And the claims solve that problem by using a subscriber profile stored in a computer’s memory to regulate access to the “data cache” or “location server” that stores the location information, a solution “necessarily rooted in computer technology.”

The PTAB erroneously dismissed *DDR* as irrelevant. Remarkably, the

PTAB never addressed the crucial passages from *DDR* discussed above. Instead, it relied on the single sentence in *DDR* describing the claim at issue as “‘overrid[ing] the routine and conventional’ aspects of the technology.” A28 (quoting *DDR*, 773 F.3d at 1258-59). The PTAB concluded—without any citation to any evidence, learned treatise, scholarly publications, or even so much as a Wikipedia page—that “[t]he linkage of existing communication systems and devices to existing processes of accessing information, as claimed here, appears to be a well-understood, routine, conventional activity previously known to the industry,” A29 (internal quotation marks omitted), and thus does not “override” the routine aspects of the technology.

The PTAB’s analysis misreads both *DDR* and the technology at issue here. Although *DDR* did note, in one sentence, that the technology at issue in that case “overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink,” its primary reasoning—repeated over and over and completely ignored by the PTAB—was that the technology at issue was “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks,” not “the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.” *Id.* at 1257. That reasoning applies equally to the claims at issue here. Further, the claims at issue here do override a routine sequence of events in that they provide a novel method for responding to

an organization's request for a subscriber's location information. Indeed, the PTAB explicitly refused to institute review on Google's argument that claims 26-29 are anticipated or obvious over the prior art. A48-64; p. 6, *supra*. And the PTAB cited absolutely nothing for the proposition that claims 26-29 recite only a "well-understood, routine, conventional activity previously known to the industry." A29 (internal quotation marks omitted). The PTAB cannot distinguish *DDR* based on a factual assertion about the claims at issue that it lacks the relevant expertise to make; for which it provides absolutely no support; and which is in serious tension with Google's failure to show the claims at issue were not novel.

This Court's decision in *DDR* directly controls the analysis under *Alice*'s second step. Under *DDR*, claims 26-29 are patentable.

CONCLUSION

For the foregoing reasons, the Court should reverse the PTAB's decision in this case.

Respectfully submitted.

/s/ William M. Jay
 William M. Jay
 Goodwin Procter LLP
 901 New York Avenue NW
 Washington, DC 20001
 Tel.: 202.346.4000
 Fax.: 202.346.4444

*Counsel for Appellant Unwired
 Planet, LLC*

Dated: November 13, 2015

**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME
LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE SYTLE
REQUIREMENTS**

This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B). The brief contains 9,516 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii) and Federal Circuit Rule 32(b).

This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). The brief has been prepared in a proportionally spaced typeface, 14-point Times New Roman font, using Microsoft Word 2010.

November 13, 2015

/s/ William M. Jay
William M. Jay

Counsel for Appellant

Addendum

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Trials@uspto.gov
Tel: 571-272-7822

Paper 31
Entered: April 6, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE INC.,
Petitioner,

v.

UNWIRED PLANET, LLC,
Patent Owner.

Case CBM2014-00006
Patent 7,203,752 B2

Before MICHAEL W. KIM, JENNIFER S. BISK, and
BARBARA A. PARVIS, *Administrative Patent Judges*.

BISK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION

35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

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I. INTRODUCTION

A. *Background*

Petitioner, Google Inc., filed a Petition pursuant to § 18 of the Leahy-Smith America Invents Act (“AIA”).¹ Paper 1 (“Pet.”). The Petition challenged claims 25–29 (“the challenged claims”) of U.S. Patent No. 7,203,752 B2 (“the ’752 patent”). On April 8, 2014, we instituted a transitional covered business method patent review (Paper 11, “Decision to Institute” or “Dec.”) based upon Petitioner’s assertion that the challenged claims are unpatentable based on the following grounds:

Reference[s]²	Basis	Claims Challenged
Not Applicable	§ 101	25–29
Not Applicable	§ 112, ¶ 1	26
Havinis ’931 and Leonhardt	§ 103	25
Landgren and Leonhardt	§ 103	25

A consolidated hearing for CBM2014-00004, CBM2014-00005, CBM2014-00006, IPR2014-00027, IPR2014-00036, IPR2013-00037, involving the same parties, was held January 13, 2015. Paper 30 (hearing transcript).

This is a Final Written Decision under 35 U.S.C. § 328(a). Based on the record presented, we are persuaded that Petitioner has shown by a preponderance of the evidence that the challenged claims are unpatentable.

¹ Pub. L. No. 112-29, 125 Stat. 284, 296–07 (2011).

² U.S. Patent No. 6,104,931 (Ex. 1004) (“Havinis ’931”); U.S. Patent No. 6,115,754 (Ex. 1005) (“Landgren”); Ulf Leonhardt & Jeff Magee, *Towards a General Location Service for Mobile Environments*, Proceedings of the Third Int’l Workshop on Servs. In Distributed & Networked Env’ts 43–50 (1996) (Ex. 1008) (“Leonhardt”).

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B. The '752 Patent

The '752 patent relates to using location-based services over mobile wireless networks. Ex. 1001, 1:14–19. According to the '752 patent, at the time of the invention, services related to the provision of wireless communications, including those provided to mobile subscribers based on their geographic location, were common. *Id.* at 1:33–46. These so-called “location-based services” track the mobile subscriber as they move throughout the network so that the service may provide location-based information to either the subscriber (e.g., the closest gas station) or an entity monitoring the subscriber (e.g., an employer monitoring the location of its employees). *Id.* at 1:47–56.

Of course, location tracking raises privacy concerns. *Id.* at 1:60–63. To protect his or her privacy, a mobile subscriber may wish to limit access to their location information based upon many factors, including: (1) the time of the request; (2) the mobile subscriber’s location at the time of the request; or (3) the party who is seeking the information. *Id.* at 1:63–2:1. The '752 patent addresses this need for controlled access to potentially sensitive location information by storing a “subscriber profile.” *Id.* at 2:8–14. A subscriber profile includes a description of the services (“client applications”) that may receive location information and the conditions under which that information may be provided to the services. *Id.* at 2:8–20. Figure 1 of the '752 patent is reproduced below.

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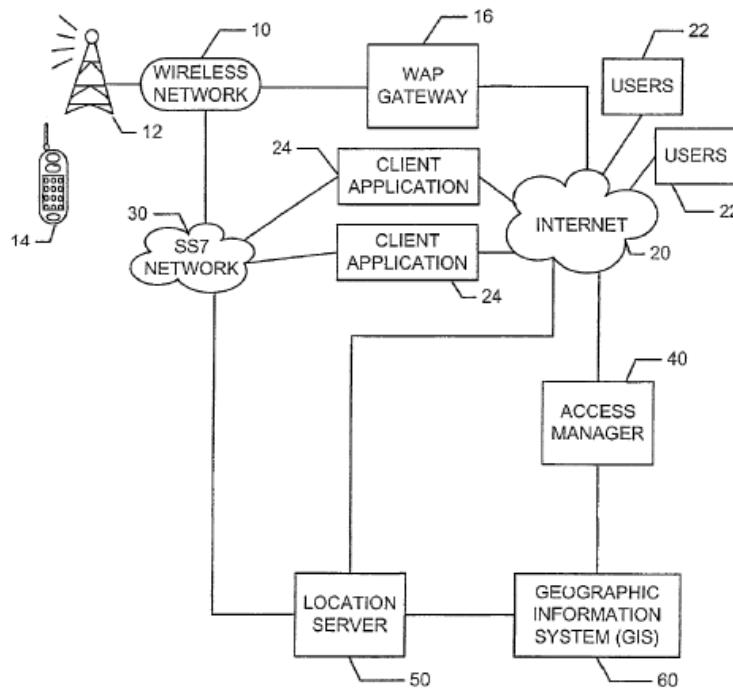


Figure 1 discloses the overall system architecture in which the invention described by the '752 patent operates. *Id.* at 4:12–13. Wireless communications device 14 communicates via tower 12 over wireless network 10. *Id.* at 4:28–32. Location server 50 periodically collects location data for wireless communication device 14. *Id.* at 4:51–56. Client application 24 communicates with access manager 40 to request wireless communication device 14's current location. *Id.* at 5:25–46. Access manager 40 determines if client application 24 is authorized to make the request under the current conditions by authenticating client application 24 and inspecting the contents of wireless communication device 14's subscriber profile. *Id.* at 5:38–46. Figure 3 of the '752 patent is reproduced below.

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SUBSCRIBER PROFILE	
302	CUSTOMER ID
304	OP ID
306	USER NAME
308	USER ALIAS
310	PASSWORD
312	STATUS
314	LANGUAGE PREFERENCE
316	MIN/MSISDN
318	PSID
320	GLOBAL PRIVACY FLAG
322	PROVISION NOTIFICATION OPTIONS
324	PERMISSION SETS
	COMPANY A COMPANY B COMPANY C

Figure 3 discloses an example subscriber profile. *Id.* at 4:17–18. In this example, the subscriber profile includes permission set 324 for each client application 24 (each of Company A, B, and C) authorized to access this subscriber's location information. *Id.* at 9:36–39. Each permission set 324 “may include a temporal permission set which identifies the time of day/day of week a particular authorized client may access the location information” as well as a “spatial permission set [which] provides a listing of the enabled geographic areas (for example city/county/state), for providing the location information” to the requesting client application. *Id.* at 9:39–45.

C. Related Matters

Petitioner states that the '752 patent has been asserted against Petitioner in a related district court proceeding in the District of Nevada.

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Pet. 79. Additionally, Petitioner filed a petition for an *inter partes* review in the following proceeding before the Board involving the '752 patent: IPR2014-00037. A final written decision in IPR2014-00037 is entered concurrently with this decision.

Furthermore, U.S. Patent No. 7,463,151 ("the '151 patent") and U.S. Patent No. 7,024,205 ("the '205 patent") are involved in the same district court proceeding identified above, and also concern location-based, mobile service technology. The '151 patent and the '205 patent are not, however, in the same patent family as the '752 patent. Petitioner has requested Office review of the '151 patent (Case Nos. CBM2014-00004 and IPR2014-00027) and the '205 patent (Case Nos. CBM2014-00005 and IPR2014-00036).

D. The Challenged Claims

Petitioner challenges claims 25–29 of the '752 patent. Of the challenged claims, only claim 25 is independent. Claim 26 depends from claim 25, claims 27 and 28 each depend from claim 26, and claim 29 depends from claim 28. Claims 25 and 26 are reproduced here:

25. A method of controlling access to location information for wireless communications devices operating in a wireless communications network, the method comprising:

receiving a request from a client application for location information for a wireless device;

retrieving a subscriber profile from a memory, the subscriber profile including a list of authorized client applications and a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information;

querying the subscribe profile to determine whether the client application is an authorized client application;

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querying the subscriber profile to determine whether the permission set for the client application authorizes the client application to receive the location information for the wireless device;

determining that the client application is either not an authorized client application or not authorized to receive the location information; and

denying the client application access to the location information.

Ex. 1001, 16:18–40.

26. The method of claim 25 further comprising:

notifying the wireless device that the client application is not authorized to receive the location information; and

updating the subscriber profile to authorize the client application to receive the location information during subsequent requests.

Ex. 1001, 16:41–46.

II. ANALYSIS

A. *Claim Construction*

We construe all terms, whether or not expressly discussed here, using the broadest reasonable construction in light of the '742 patent specification.

In re Cuozzo Speed Techs., LLC, No. 2014-1301, 2015 WL 448667 at *7 (Fed. Cir. Feb. 4, 2015) (“We conclude that Congress implicitly adopted the broadest reasonable interpretation standard in enacting the AIA.”); 37 C.F.R. § 42.300(b). In the Decision to Institute, we expressly construed the following terms: (1) “spatial limitation on access to the location information” as “limitation on access to location information that depends on the mobile device’s location”; and (2) “subscriber profile” as “a set of limitations on the provision of location information corresponding to the wireless device, based upon the privacy preferences of the wireless device

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user.” Dec. 7–9. Neither party has expressed disagreement with these constructions, and we see no reason to modify these constructions based on the evidence introduced during trial. For purposes of this Decision, we continue to apply these constructions for the same reasons as set forth in the Decision to Institute.

B. Obviousness Grounds—Claim 25

The Petition challenges the patentability of claims 25–29 of the ’752 patent under 35 U.S.C. §§ 102 and 103. Pet. 46–79. After considering the arguments and evidence presented in the Petition and the Preliminary Response (Paper 8), we instituted trial with respect to claim 25, concluding that Petitioner was likely to prevail in showing unpatentability over combinations of (1) Havinis ’931 and Leonhardt, and (2) Landgren and Leonhardt. Dec. 34.

1. Patent Owner’s Arguments

Patent Owner was then afforded the opportunity to file a Patent Owner Response to address “any ground for unpatentability not already denied” by our Decision to Institute. 37 C.F.R. § 42.220. In its Patent Owner Response, Patent Owner does not address the grounds of unpatentability under § 103 for claim 25. Paper 22 (“PO Resp.”), 3 (“The present response does not address the alleged grounds of unpatentability under §§ 102 and 103 for independent claim 25.”). Thus, Patent Owner provides no substantive arguments beyond those previously asserted in its Preliminary Response (Paper 8). We previously considered those arguments, but did not find them persuasive. Dec. 17–29.

Thus, for these grounds we are left to consider only the evidence of record as presented in the Petition. *See* Pet. 56–59, 69–70. After

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considering Petitioner’s evidence with respect to claim 25, as explained in more detail below, we determine that the preponderance weighs in favor of unpatentability.

2. Overview of Havinis ’931

Havinis ’931 discloses a method requesting location services within a mobile communications system. Ex. 1004, 1:8–14. Specifically, Havinis ’931 describes a “Location Application (LA)” that may request the location of a mobile station after registering with at least one “Gateway Mobile Location Center (GMLC”). *Id.* at 2:24–35, 3:43–51. This information is stored in a database called the “Home Location Register (HLR)” along with subscriber information including privacy preferences. *Id.* at 1:55–2:9, 7:16–29. Upon a request from a particular LA, the GMLC verifies the authenticity of the LA. *Id.* at 4:66–5:4. Once the GMLC determines that the LA is legitimate, it requests the mobile station’s location from the HLR (*id.* at 7:16–45) and checks the privacy indications of the mobile station (*id.* at 7:46–65). If the mobile station’s privacy settings allow location information to be sent to the LA under the current conditions, the information is forwarded. *Id.* at 8:1–9. Otherwise, a rejection message is sent. *Id.* at 7:66–8:1.

3. Overview of Leonhardt

Leonhardt describes “how to meet the need for location-dependent information by introducing a general-purpose location service for mobile environments” and “investigates mechanisms to exactly specify and supervise the level of access to location data that is wanted.” Ex. 1008, 43. The mechanism Leonhardt proposes is a “flexible yet powerful access control mechanism[]” using a hierarchical structure of location information.

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Id. at 47. Specifically, Leonhardt's mechanism includes a set of location access rules that define boundaries within which an object allows access to its location information. *Id.* These boundaries are defined using a “visible domain set[] (VDS).” *Id.* Only objects positioned in a location listed in the VDS of an access rule may be queried for their location. *Id.* To allow for personalized privacy preferences, “a user can specify his or her private location access authorisation policies in his or her personal user representation domain.” *Id.* Figure 3 of Leonhardt is reproduced below.

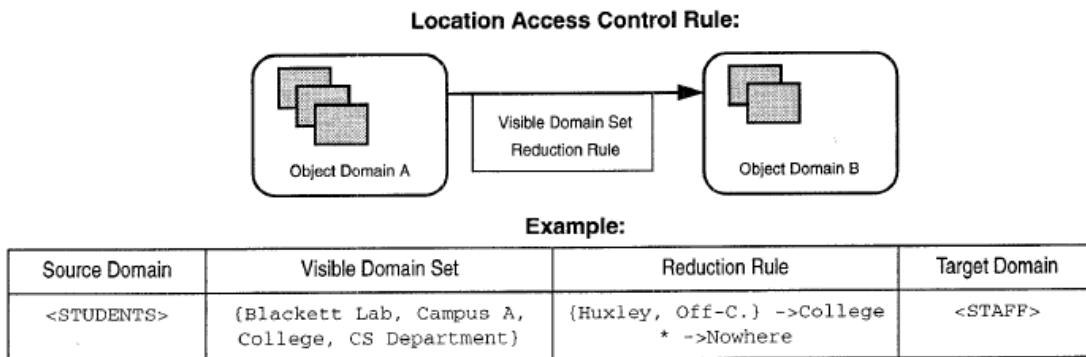


Figure 3. Location access control rules express authorisation policies

Figure 3 of Leonhardt illustrates an example location access control rule “that specifies a policy which restricts the level of access for students to the location of members of staff.” *Id.* Specifically, the VDS of Figure 3 includes, “Blackett Lab, Campus A, College, [and] CS Department.” *Id.* If a student queries the location of staff located anywhere other than those four listed locations, their query will be unsuccessful. *Id.*

4. Overview of Landgren

Landgren discloses appending location information of a mobile unit onto its communications. Ex. 1005, 1:9–15. Specifically, Landgren describes an entity called a “location appending unit,” which monitors communications passing between a gateway between a wireless network and

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the Internet. *Id.* at 4:49–67, 5:28–41. When the location appending unit detects a requirement for location information on any communications, it determines the location of the mobile unit. *Id.* at 5:28–41. Part of this determination includes accessing a subscriber profile of the mobile unit. *Id.* at 8:56–59. The subscriber profile indicates whether the location appending unit is allowed to append its location information to a communication. *Id.* at 8:59–65. If allowed, the location appending unit appends the mobile unit’s location information to the communication for delivery to the final destination. *Id.*

5. Obviousness Over Havinis ’931 and Leonhardt

Petitioner asserts that Havinis ’931 discloses all the features of claim 25, but acknowledges that Leonhardt expressly teaches the limitation “the subscriber profile including . . . a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information” (“the permission set constraint limitation”). Pet. 56–57.

We have reviewed Petitioner’s obviousness contentions and supporting evidence, including the Declaration of Dr. Donald Cox (Ex. 1002 ¶¶ 39–50, 68–70, 76), which read all elements of claim 25 of the ’752 Patent onto the combined teachings of Havinis ’931 and Leonhardt. Pet. 46–49, 51–53, 56–59 (citing Ex. 1004, 2:10–14, 23–26, 3:33–40, 4:37–45, 5:5–36, 7:47–66; Ex. 1008, Abs., 43, 47, Fig. 3). We are persuaded that Petitioner has shown claim 25 unpatentable over this combination. For instance, we are persuaded that Havinis ’931 discloses “[a] method of controlling access to location information for wireless communications devices operating in a

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wireless communications network” as recited by claim 25. Specifically, Havinis ’931 discloses that the GMLC receives a positioning request for a mobile station from a location application and provides the requested information only if the location application is authorized and such access is permitted by the subscriber’s privacy indication.

Moreover, we are persuaded that Havinis ’931 discloses the recited “subscriber profile including a list of authorized client applications and a permission set for each of the authorized client applications.” Specifically, we are persuaded that the location services profiles maintained by the GMLC database of Havinis ’931 constitute a subscriber profile. Ex. 1004, 5:5–36; Ex. 1002 ¶¶ 41–44. As stated in our Decision to Institute, we are persuaded that these profiles “include limitations on the provision of location information corresponding to wireless devices, based on the privacy preferences of the wireless device user.” Dec. 22. Moreover, the GMLC maintains a list of location applications (in the form of Location Application Identifier Numbers) corresponding to the claimed authorized client applications and identifies a location services profile corresponding to the claimed permission set. *See, e.g.*, Ex. 1004, 2:56–66.

Finally, we are persuaded that the remaining limitations recited by claim 25 are disclosed by the combination of Havinis ’931 and Leonhardt. *See* Pet. 46–49, 51–53, 56–59; Dec. 21–25. For example, we are persuaded that Leonhardt discloses the “spatial limitation” component of the permission set constraint limitation. Leonhardt discloses requests for location information from querying objects may be constrained depending on the location of the target objects to be located. Ex. 1008, 47, Fig. 3; Ex. 1002 ¶¶ 68–70; *see* Pet. 57–59.

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Furthermore, Petitioner has set forth a showing of articulated reasoning with rational underpinning to combine Havinis '931 and Leonhardt. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). For instance, Petitioner states:

[a] person of ordinary skill would have found it obvious to modify the system of Havinis '931 to include Leonhardt's location access policies, in order to further Havinis '931's goals of managing positioning requests sent by Location Applications such that location services can be tailored individually to meet the needs of the mobile device user.

Pet. 59 (citing Ex. 1004, 3:33–40). Relying on Dr. Cox, Petitioner adds that this modification “would have been nothing more than the application of a known method of privacy management to achieve a predictable result.” Ex. 1002 ¶ 76. As explained in our Decision to Institute, we are persuaded the rationale set forth by Petitioner and Dr. Cox is reasonable. *See* Dec. 24–25. Subsequent to our preliminary finding, Patent Owner has provided no evidence or argument to the contrary. Thus, after once again evaluating Petitioner’s arguments and supporting evidence, we conclude that Petitioner has shown by a preponderance of the evidence that it would have been obvious to combine the relied upon teachings of Havinis '931 and Leonhardt.

We conclude that Petitioner has shown by a preponderance of the evidence that claim 25 of the '752 Patent would have been obvious over Havinis '931 and Leonhardt.

6. Obviousness Over Landgren and Leonhardt

Petitioner asserts that Landgren discloses all the features of claim 25, including a “subscriber profile,” except that the subscriber profile of Landgren does not include “a list of authorized client applications and a

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permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information.” Pet. 61–66, 69–70. Petitioner relies on Leonhardt to make up this deficiency. *Id.* at 60–70.

We have reviewed Petitioner’s obviousness contentions and supporting evidence, including the Declaration of Dr. Donald Cox (Ex. 1002 ¶¶ 52–55, 78), which read all elements of claim 25 of the ’752 Patent onto the combined teachings of Landgren and Leonhardt. Pet. 61–66, 69–70 (citing Ex. 1005, Abs., 8:2126, 62–65; Ex. 1008, 43, 47). We are persuaded that Petitioner has shown claim 25 unpatentable over this combination. For instance, we are persuaded that Landgren discloses “receiving a request from a client application for location information for a wireless device” as recited by claim 25. Landgren discloses “an application operating on [a] web server . . . requesting the location appending unit . . . to intercept all communications.” Ex. 1001, 5:52–58; *see id.* 8:21–42.

We are also persuaded that the remaining limitations recited by claim 25 are disclosed by the combination of Landgren and Leonhardt. *See* Pet. 61–66, 69–70; Dec. 27–29. For example, we are persuaded that the location access policies of Leonhardt constitute a subscriber profile, in that they identify subscribers or target objects (e.g., staff members) that may be located by querying objects (e.g., students). Ex. 1008, 47, Fig. 3; Ex. 1002 ¶¶ 68–70; *see* Pet. 61–66, 69–70. In addition, the querying objects (students) operate through applications to request location data. *Id.* Moreover, given that such location data may be provided, the applications used by the querying objects are authorized. *Id.* Finally, the reduction rules

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of Leonhardt correspond to the recited “permission set includ[ing] . . . spatial limitations on access to location information,” in that they constrain requests for location information from querying objects (students) depending on the location of the target objects (staff members) to be located. *Id.*

Furthermore, Petitioner has set forth a showing of articulated reasoning with rational underpinning to combine Landgren and Leonhardt. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). For instance, Petitioner states:

[a] person of ordinary skill would have found it obvious to modify the system of Landgren to include Leonhardt's location access policies and reduction rules, in order to further Landgren's goals of managing positioning requests sent by applications such that location services can be tailored individually to meet the needs of the mobile device user.

Pet. 70. Relying on Dr. Cox, Petitioner adds that this modification “would have been nothing more than the application of a known method of privacy management to achieve a predictable result.” Ex. 1002 ¶ 78. As explained in our Decision to Institute, we are persuaded the rationale set forth by Petitioner and Dr. Cox is reasonable. *See* Dec. 29. Subsequent to our preliminary finding, Patent Owner has provided no evidence or argument to the contrary. Thus, after once again evaluating Petitioner's arguments and supporting evidence, we conclude that Petitioner has shown by a preponderance of the evidence that it would have been obvious to combine the relied upon teachings of Landgren and Leonhardt.

We conclude that Petitioner has shown by a preponderance of the evidence that claim 25 of the '752 Patent would have been obvious over Landgren and Leonhardt.

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C. Written Description—Claim 26

Petitioner contends that claim 26 lacks written description support under 35 U.S.C. § 112, ¶ 1.³ Pet. 43–46. Specifically, Petitioner asserts that the limitations “notifying the wireless device that the client application is not authorized to receive the location information” (“the notifying limitation”) and “updating the subscriber profile to authorize the client application to receive the location information during subsequent requests” (“the updating limitation”) were added during prosecution and are not supported by the language of the originally filed application. *Id.* at 43 (citing Ex. 1003, 43).

In the Decision to Institute we instituted trial on this ground, concluding that Petitioner was likely to prevail in showing that the ’752 patent fails to describe notifying the wireless device as required by the notifying limitation. Dec. 14–16. In addition, we concluded that Petitioner was likely to prevail in showing that the ’752 patent fails to describe the combination of the notifying limitation and the updating limitation. *Id.* at 16–17.

1. Order of the Steps

As a preliminary matter, Patent Owner argues that the Decision to Institute erred in requiring a certain order to the steps of claim 26. PO Resp. 6–13. This argument centers on four limitations of claim 26: “determining that the client application is either not an authorized client application or not authorized to receive the location information” (“the determining limitation”); (2) “denying the client application access to the location

³ Section 4(c) of the AIA re-designated 35 U.S.C. § 112 ¶ 1 as 35 U.S.C. § 112(a). Because the ’752 patent has a filing date before September 16, 2012 (effective date of § 4(c)), we will refer to the pre-AIA version of 35 U.S.C. § 112.

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information” (“the denying limitation”); (3) the notifying limitation; and (4) the updating limitation. The determining and denying limitations are recited sequentially in claim 25 and the notifying and updating limitations are recited sequentially in claim 26. *Id.* We agree with Patent Owner that “unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one.” *Altiris, Inc. v. Synantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003) (internal quotation marks omitted); PO Resp. 7.

Patent Owner argues that between these four limitations, the only potential temporal requirement is that the determining limitation may be required to take place before the notifying limitation. PO Resp. 8–13. We agree that this particular temporal requirement is required by the claim language, because “notifying the wireless device that the client application is not authorized” requires there first to have been a “determin[ation] that the client application is . . . not authorized.”

According to Patent Owner, however, the order of the *denying* and *notifying* limitations are not related, and thus do not indicate a particular temporal requirement. *Id.* at 8–10. In particular, Patent Owner asserts that although listed later in the claim than the *denying* limitation (because the *notifying* limitation is recited in claim 26 while the *denying* limitation is recited in claim 25), the *notifying* limitation is not tied to the result of the *denying* limitation. *Id.* In other words, Patent Owner asserts that nothing in the claim language or the specification restricts the wireless device from being notified that a client application is not authorized to receive the location information *before* the client application is denied access to the location information. Petitioner does not appear to disagree with this

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argument. *See* Paper 24 (“Reply”) 1–5. We agree with Patent Owner that the denying and notifying limitations do not have to occur in any particular order in relation to each other.

Patent Owner also argues that nothing in the claim language or the specification requires a particular order of the notifying and updating limitations—“updating the subscriber profile to authorize the client application to receive the location information during subsequent requests.” PO Resp. 10–13. In the Decision to Institute, we stated that “because the ‘updating’ step in claim 26 authorizes the client application to receive the location information ‘during subsequent requests’” the updating limitation must follow the notifying step in time. Dec. 17. Patent Owner objects to this logic because although “during subsequent requests” expresses a timing element, that element is not tied to anything in the notifying limitation. *Id.* Petitioner agrees with the Decision to Institute, arguing that the updating limitation has to occur after the notifying limitation. Reply 6–7 (citing Ex. 2001 ¶¶ 20, 22 (Patent Owner’s declarant testimony)).

We agree with Patent Owner that neither the claims nor the specification requires that the notifying limitation occur before the updating limitation. Instead, “during subsequent requests” logically refers to requests that occur after the subscriber profile has been updated. We agree that “subsequent” is not related to the immediately preceding claim limitation and we see no reason that a subscriber profile cannot be updated *before* the wireless device is notified that the client application is not authorized to receive the location information. Beginning with the claim language, “it neither grammatically nor logically indicates” that the notifying step must occur prior to the updating step. *Altiris*, 318 F.3d at 1370.

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Although it is true that being notified that a client application is not authorized may prompt a subscriber to update their profile, nothing in the claim ties the updating limitation to such a reaction. In fact, claim 26 does not specify who or what does the updating of the profile. *See* Ex. 1001, 16:47–48 (claim 28 “[t]he method of claim 26 wherein the updating the subscriber profile is performed by the subscriber”). Thus, it is unclear why the updating limitation would be tied to the notification of the wireless device. Looking at the specification, we also see no requirement that the updating limitation occur after the notifying limitation and Petitioner does not point us to language supporting such a requirement. *See* Pet. 45–46; Reply 5–7. In fact, Petitioner acknowledges that the specification does not describe any embodiments in which the limitations occur in this order. Pet. 45 (“[a]lthough the ’752 specification describes the subscriber profile can be modified . . . , it does not describe any embodiments in which the wireless device is notified that the client application is not authorized to receive the location information *and* the subscriber profile is then updated to authorize the client application in subsequent requests”) (citing Ex. 1001, 8:60–9:25, Figs. 5, 6A, 6B; Ex. 1002 ¶¶ 37–38).

For these reasons, we conclude that, in claim 26, the denying and notifying limitations do not have to occur in any particular order in relation to each other.

2. Written Description Support for the Notifying Limitation

Petitioner contends that “the closest disclosure in the ’752 specification” to the notifying limitation—“notifying the wireless device that the client application is not authorized to receive the location information”—is the following language: “If the information does not match, a ‘denied

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access’ message will be presented to the requesting application.” Pet. 44 (quoting Ex. 1001, 11:40–42). According to Petitioner, this language only describes notifying *the client application* of a denial of access and not notifying the wireless device as claimed and thus does not support the notifying limitation. *Id.* Petitioner points to other portions of the ’752 patent that describe notifying the wireless device, but according to Petitioner, these sections only support notifications that occur after a client application has been cleared to receive location information, and therefore do not support notifying the wireless device of the correct information—in other words, Petitioner asserts that the notifying limitation requires notification that the client application is *not* authorized to receive the information. *Id.* at 44–45 (citing Ex. 1002 ¶¶ 34–36).

We are not persuaded that Petitioner has shown by a preponderance of the evidence that the ’752 patent fails to provide sufficient written description support for the notifying limitation. Petitioner’s only evidence that the notifying limitation is not sufficiently supported is its argument that the ’752 patent fails to explicitly describe notifying *the wireless device* that access to the location information *was denied*. Pet. 44–45. Petitioner proffers testimony from Dr. Cox parroting, almost word for word, the argument in Petitioner’s brief. Ex. 1002 ¶¶ 24–36. This argument and testimony, however, does not speak to the correct standard—whether the ’752 specification “reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). Moreover, “the disclosure as originally filed does not . . . have to provide *in haec verba* support for the claimed subject matter at

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issue,” nor must it describe “every conceivable and possible future embodiment of [the] invention.” *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1365 (Fed. Cir. 2003) (internal quotation marks omitted).

We agree with Patent Owner, that the ’752 patent broadly describes notifying the wireless device at any time during the described process. *See, e.g.*, Ex. 1001, 9:26–29 (“the system described herein is for a subscriber to receive a notification on their wireless communications device whenever a location request is made by any client application”). Moreover, as pointed out by Petitioner, the ’752 patent describes sending “denied access” messages to client applications. *See* Pet. 44 (citing Ex. 1001, 11:40–42). Based on these disclosures, we are persuaded that the ’752 patent provides broad support for providing notifications of various messages to different elements of the system at multiple points in the described process.

Petitioner has not pointed to anything in the ’752 patent specification that clearly limits what messages can be sent to the various elements or when they can be sent. In fact, as Patent Owner points out, the Provisional Application explicitly contemplates “initiat[ing] a dialogue with the subscriber regarding permission for a location request.” Ex. 1020, 22. Although Petitioner complains that this disclosure does not describe how a dialogue would occur or how messages are relayed (Reply 5), we are not persuaded that a person of ordinary skill in the art would disbelieve, based on the entirety of the ’752 patent disclosure, that the inventor had possession of sending an access denied message to the wireless device at the appropriate time during the process.

Thus, we are persuaded that the ’752 patent “provides ample support for the breadth” of the notifying limitation and does not “unambiguously

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limit” its meaning to a narrower embodiment (e.g., notifying the wireless device only when a request has been made). *Cordis*, 339 F.3d at 1365. Petitioner has not shown by a preponderance of the evidence that the ’752 patent fails to support the notifying limitation.

3. Written Description Support for the Updating Limitation

Petitioner also contends that, “[a]lthough the ’752 specification describes that the subscriber profile can be modified,” the ’752 patent fails to provide sufficient written description support for the updating limitation—“updating the subscriber profile to authorize the client application to receive the location information during subsequent requests.” Pet. 45. Petitioner bases this assertion on Figures 5, 6A, and 6B of the ’752 patent, which are flow charts describing the steps performed in the authentication process. *Id.* According to Petitioner, because these figures show that “anytime the process reaches a ‘deny access’ step, the process flow terminates and there are no further steps,” the updating limitation is not supported by the specification. *Id.* (citing Ex. 1002 ¶¶ 37–38).

Patent Owner responds that Petitioner’s entire argument and all of its evidence rests on the flawed premise that the updating limitation must be performed *after* the notifying limitation. PO Resp. 20–24. As discussed above, we agree with Patent Owner that there is no requirement in the claims or the specification that the notifying limitation precede the updating limitation. Moreover, we are persuaded that because no such order is required, the ’752 patent adequately supports updating the subscriber profile as claimed. *See, e.g.*, Ex. 1001, 9:12–25, 36–51. Thus, we agree with Patent Owner that Petitioner has not shown by a preponderance of the evidence that the ’752 patent fails to support the updating limitation.

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D. Non-Statutory Subject Matter

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. Supreme Court precedent provides three specific exceptions to the broad categories of § 101: laws of nature, physical phenomena, and abstract ideas. *Bilski v. Kappos*, 561 U.S. 593, 601 (2010). “The ‘abstract ideas’ category embodies the longstanding rule that ‘[a]n idea of itself is not patentable.’” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S.Ct. 2347, 2355 (2014) (citing *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (quotations omitted)).

In *Alice*, the Supreme Court referred to the framework set forth in *Mayo Collaboration Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S.Ct. at 2355. In the first step, “we determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* “If so, we then ask, ‘[w]hat else is there in the claims before us?’” *Id.* (quoting *Mayo*, 132 S.Ct. at 1297). In the second step, we consider the elements of each claim both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application. *Id.* Step two of the analysis may be described as a search for an “inventive concept”—i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself. *Id.* (citing *Mayo*, 132 S.Ct. at 1294).

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1. Abstract Idea

Petitioner submits that the claimed invention is directed to the abstract idea of controlling access to location information using a subscriber profile. Reply 10; *see also* Pet. 37–43 (asserting that the challenged claims are at most abstract concepts being performed using general-purpose computer equipment). Patent Owner, to the contrary, asserts that the challenged claims are not abstract, but instead recite “a method to control whether a client application operating within a wireless communication network is allowed access to location information generated by wireless communications devices operating within the network.” PO Resp. 25. According to Patent Owner, “[a]n underlying idea” of the claims “is protecting location information in an electronic system under control of individual subscribers using client application specific preferences,” which is not abstract because the claims “do not preempt all practical implementations.” *Id.* at 33–34.

We agree with Petitioner that the claimed invention is directed to an abstract idea, specifically, the abstract idea of controlling access to location information using a subscriber profile. The preambles and all claim limitations of both claims support this abstract idea, and the ’752 patent repeatedly discloses that the invention is directed to controlling access to location information. *See, e.g.*, Ex. 1001, 1:14–19, 1:60–2:7. Patent Owner has not identified any portion of the ’752 patent inconsistent with this abstract idea, and we are persuaded that the identified abstract idea is similar to the kind of “organizing human activity” at issue in *Bilski* and *Alice*. *See, e.g.*, *Planet Bingo, LLC v. VKGS LLC*, 576 F. App’x 1005, 1008 (Fed. Cir.

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2014) (comparing “methods and systems for managing a game of Bingo” to the kind of “organizing human activity” at issue in *Bilski* and *Alice*).

Patent Owner does not direct us to any authority for its assertion that its claims are not abstract because the claims are technical in nature. In *Alice*, for example, the claims were found to be directed to an abstract idea even though they “relate[d] to a computerized scheme for mitigating ‘settlement risk.’” *Alice*, 134 S.Ct. at 2352; *see also Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat'l Assoc.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (characterizing the claimed abstract idea as “1) collecting data, 2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory,” despite claim’s recitation of specific limitations, such as a scanner).

Here, the challenged claims’ combination of steps recites an abstraction because it has “no particular concrete or tangible form” and is “devoid of a concrete or tangible application.” *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). The details emphasized by Patent Owner do not remove the claimed methods from the realm of the abstract. These details are characteristic of the invention’s implementation, rather than its general idea. *Cf. buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354–55 (Fed. Cir. 2014) (describing the claim’s abstract idea without including the claim’s “computer network” limitation); *see also Ultramercial*, 772 F.3d at 715 (stating that more detailed limitations may “add a degree of particularity,” but do not convert the concept embodied by the majority of the limitations into something concrete).

We are also not persuaded by Patent Owner’s argument that the challenged claims are not abstract because they “recite a concrete and

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detailed implementation of securing location information in a wireless communications network to improve a technological field” and “an improvement of a specific technology to control access to location information.” PO Resp. 30. This particular argument is misplaced in this step of the analysis because “novelty in implementation of the idea is a factor to be considered only in the second step of the *Alice* analysis.” *Ultramercial*, 772 F.3d at 715.

Finally, Patent Owner asserts that the claimed invention is not abstract because it does not fall within *Alice*’s articulated examples of an abstract idea. PO Resp. 32. According to Patent Owner, the claimed subject matter “only exists within operation of a man-made wireless communications system, which precludes categorizing these claims as covering a preexisting fundamental truth” and cover “much more than a method of organizing human activities.” *Id.*

As discussed above, however, we are persuaded that the identified abstract idea is similar to the kind of “organizing human activity” at issue in *Bilski* and *Alice*. Further, abstract ideas are not limited to the examples set forth in *Alice*. While the Supreme Court has not precisely defined “abstract idea,” the Federal Circuit since *Alice* has invalidated patents encompassing a broad range of abstract ideas. We conclude that claims 25–29 of the ’151 patent are comparable to other communication-based patents that have been invalidated after *Alice*. See, e.g., *Content Extraction*, 776 F.3d at 1345 (holding claims drawn to the “basic concept of data recognition and storage” abstract); *Ultramercial*, 772 F.3d at 715 (holding the “process of receiving copyrighted media, selecting an ad, offering the media in exchange for watching the selected ad, displaying the ad, allowing the consumer access to

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the media, and receiving payment from the sponsor of the ad all describe an abstract idea”).

2. *Inventive Concept*

Turning to the second step of the analysis, we look for additional elements that can “transform the nature of the claim” into a patent-eligible application of an abstract idea. *Mayo*, 132 S.Ct. at 1297.

Patent Owner asserts that even if the challenged claims recite an abstract idea, they include limitations that amount to significantly more than an abstract idea. PO Resp. 34–35. According to Patent Owner,

Starting with the preamble of claim 25, the claimed subject matter is focused on a unique combination of operations performed within a wireless network to protect location data generated by a wireless device. . . . Claim 25 continues by reciting a specific data structure (e.g., subscriber profile) for organizing and efficiently accessing client application specific user privacy preferences.

Id. at 35. Patent Owner argues that the subscriber profile adds “meaningful and *concrete* limitations to the claimed subject matter” providing “allowing subscribers to specify client application specific privacy preferences in a logical and efficient manner.” *Id.*

On this record, we are not persuaded that the challenged claims of the ’752 patent add an inventive concept sufficient to ensure that the patent in practice amounts to significantly more than a patent on the abstract idea itself. *Alice*, 134 S.Ct. at 2355; *see also Ultramercial*, 772 F.3d at 715 (“Those ‘additional features’ must be more than ‘well-understood, routine, conventional activity.’”). The wireless network, wireless device, and access terminal are all defined in the specification as including commonly known technical solutions. Ex. 1001, 2:53–65. Thus, the hardware itself certainly

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is not an inventive concept sufficient to transform the abstract idea into a patentable claim. *See Alice*, 134 S.Ct. at 2357.

Moreover, we are persuaded that the claimed subject matter does not do anything more than simply instruct the practitioner to implement the abstract idea of controlling access to location information on generic technology. *See Alice*, 134 S.Ct. at 2359. Despite its arguments that the subscriber profile and technical features of the claims add enough to make the claims patentable, Patent Owner fails to identify any language in the claims or the specification demonstrating that the generic technical elements operate in an unconventional manner or that the subscriber profile actually improves any specific technology. Instead, through the bare recitation of the steps of “receiving,” “retrieving,” “querying,” “determining,” “denying,” “notifying,” and “updating,” the claims are “specified at a high level of generality,” which the Federal Circuit has found to be “insufficient to supply an ‘inventive concept.’” *Ultramercial*, 772 F.3d at 716. Similarly, we are not persuaded that by Patent Owner’s argument that the specific data structure of the subscriber profile adds meaningful limitations to the abstract idea. Instead, the subscriber profile simply uses a table or other generic computer data structure to implement the idea of gathering a list in one place. This does not transform an abstract idea into patentable subject matter.

In *DDR Holdings*, the Federal Circuit found that the challenged patent was valid because it “specif[ied] how interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional” aspects of the technology. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1258–59 (Fed. Cir. 2014). Here, instead of

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overriding a routine sequence of events, as discussed above, the claims apply conventional computer technology to control access to certain information. This conclusion is unaltered by the fact that the use of such a system may have advantages over prior art access methods. *Parker v. Flook*, 437 U.S. 584, 590 (1978) (reasoning that “the Pythagorean theorem would not have been patentable, or partially patentable, because a patent application contained a final step indicating that the formula, when solved, could be usefully applied to existing surveying techniques.”). The linkage of existing communication systems and devices to existing processes of accessing information, as claimed here, appears to be a “‘well-understood, routine, conventional activity’ previously known to the industry.” *Content Extraction*, 776 F.3d at 1347–48 (quoting *Mayo*, 132 S.Ct. at 1294). None of the technical limitations, viewed “both individually and as an ordered combination,” transform the nature of the claims into patent-eligible subject matter. *See Alice*, 134 S.Ct. at 2355 (quoting *Mayo*, 132 S.Ct. at 1297, 1298).

3. Conclusion

We are persuaded that Petitioner has shown by a preponderance of the evidence that claims 25–29 of the ’752 patent are unpatentable under 35 U.S.C. § 101.

III. ORDER

Accordingly, it is:

ORDERED that claims 25–29 of the ’752 patent are determined to be *unpatentable*; and

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FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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PETITIONER:

Michael V. Messinger
Joseph E. Mutschelknaus
STERNE, KESSLER, GOLDSTEIN & FOX PLLC
mikem-PTAB@skgf.com
jmutsche-PTAB@skgf.com

PATENT OWNER:

Timothy E. Bianchi
Thomas C. Reynolds
SCHWEGMAN, LUNDBERG & WOESSNER, PA
tbianchi@slwip.com
treynolds@slwip.com
SLW-PTAB@slwip.com

Trials@uspto.gov
Tel: 571-272-7822

Paper 11
Entered: April 8, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE INC.
Petitioner

v.

UNWIRED PLANET, LLC
Patent Owner

Case CBM2014-00006
Patent 7,203,752

Before MICHAEL W. KIM, JENNIFER S. BISK, and GEORGE R. HOSKINS,
Administrative Patent Judges.

HOSKINS, *Administrative Patent Judge.*

DECISION
Institution of Covered Business Method Patent Review
37 C.F.R. § 42.208

Case CBM2014-00006
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I. INTRODUCTION

Google Inc. (“Petitioner”) filed a petition (Paper 1, “Pet.”) on October 9, 2013, requesting review of U.S. Patent No. 7,203,752 (Ex. 1001, “the ’752 patent”) under the transitional program for covered business method patents. Unwired Planet, LLC (“Patent Owner”) filed a preliminary response (Paper 8, “Prelim. Resp.”) on January 15, 2014. We have jurisdiction under AIA § 18(a)¹ and 37 C.F.R. § 42.300(a) (2013).

The standard for instituting a covered business method patent review is set forth in 35 U.S.C. § 324(a), which provides:

THRESHOLD.—The Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

See AIA § 18(a)(1). Petitioner contends claims 25–29 of the ’752 patent are unpatentable under 35 U.S.C. §§ 101, 103, and 112, first paragraph. *See* Pet. 25–27. For the following reasons, and taking into account Patent Owner’s preliminary response, we determine the information presented in the petition demonstrates it is more likely than not that claims 25–29 of the ’752 patent are unpatentable. Therefore, pursuant to 35 U.S.C. § 324, we authorize a covered business method patent review to be instituted as to claims 25–29 of the ’752 patent.

A. *The ’752 Patent*

The ’752 patent discloses a method and system for managing wireless communications device location information. *See* Ex. 1001, title. Figure 1 of the ’752 patent is reproduced below:

¹ *See* section 18(a) of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329–31 (2011) (“AIA”).

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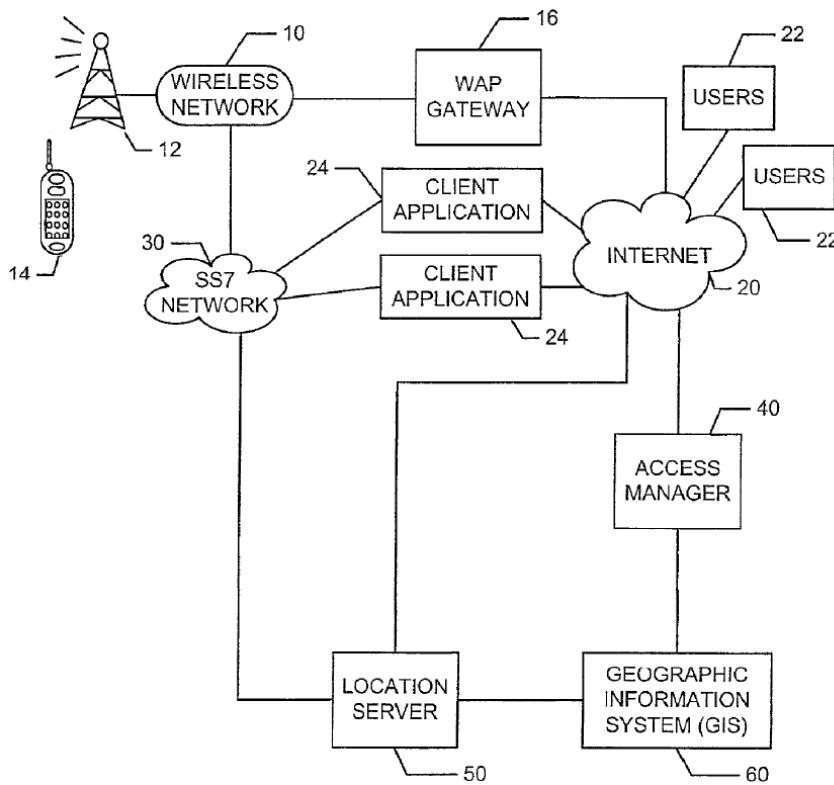


Figure 1 discloses a communications architecture within which an access system operates.

As shown in Figure 1, wireless device 14 communicates over wireless network 10 to access Internet 20. *See id. at 4:28–50.* Location server 50 also is connected to wireless network 10 and Internet 20. *See id. at 4:51–52.* Location server 50 collects and records data reflecting a location of wireless device 14. *See id. at 4:52–5:4.* Client application 24 communicates with access manager 40 to request location information relating to wireless device 14. *See id. at 5:25–46.* Access manager 40 then performs a test to determine if client application 24 is authorized to make the request. *See id. at 7:31–34; 11:21–26.* The test may include accessing a subscriber profile stored in a memory of access manager 40 to analyze whether and to what degree criteria specified in the subscriber profile are met by the request for location information. *See id. at 7:40–45.*

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A subscriber profile is illustrated in Figure 3 of the '752 patent. *See id.* at 8:60–66. Figure 3 is reproduced below:

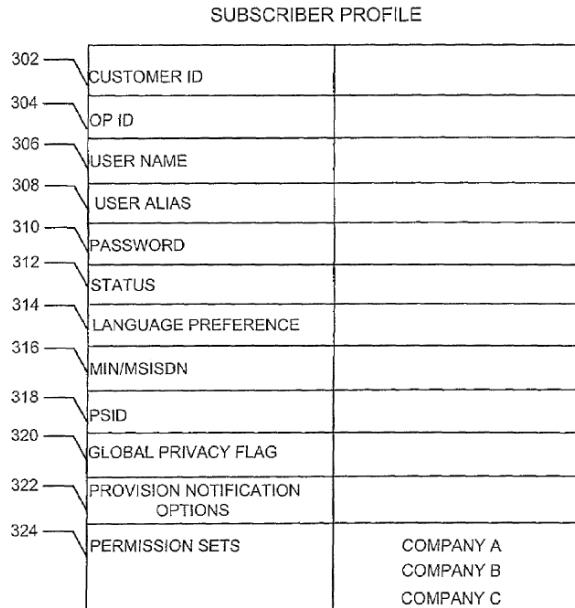


Figure 3 discloses an example profile for a subscriber.

As illustrated in Figure 3, the subscriber profile may include a permission set 324 for each client application 24 authorized to access location information for wireless device 14. *See id.* at 9:36–39. Each permission set 324 “may include a temporal permission set which identifies the time of day / day of week a particular authorized client [24] may access the location information” as well as a “spatial permission set [which] provides a listing of the enabled geographic areas (for example city / county / state), for providing the location information” to client application 24. *Id.* at 9:39–45.

B. Related Matters

Petitioner and Patent Owner have identified one related district court proceeding involving the '752 patent: *Unwired Planet LLC v. Google Inc.*,

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No. 3:12-cv-00504 (D. Nev.). *See* Pet. 79; Paper 7, at 2. Petitioner also has requested *inter partes* review of the '752 patent (IPR2014-00037).

Moreover, U.S. Patent No. 7,024,205 ("the '205 patent") and U.S. Patent No. 7,463,151 ("the '151 patent") are owned by Patent Owner, are involved in the same district court proceeding, and also concern location-based mobile service technology. The '205 patent and the '151 patent are not, however, in the same patent family as the '752 patent. Petitioner has requested Office review of the '205 patent (CBM2014-00005 and IPR2014-00036) and the '151 patent (CBM2014-00004 and IPR2014-00027).

C. Illustrative Claims

Of the challenged claims 25–29, only claim 25 is an independent claim. Claim 26 depends from claim 25, claims 27 and 28 each depend from claim 26, and claim 29 depends from claim 28. Claims 25 and 26 are reproduced here:

25. A method of controlling access to location information for wireless communications devices operating in a wireless communications network, the method comprising:

receiving a request from a client application for location information for a wireless device;

retrieving a subscriber profile from a memory, the subscriber profile including a list of authorized client applications and a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information;

querying the subscriber profile to determine whether the client application is an authorized client application;

querying the subscriber profile to determine whether the permission set for the client application authorizes the client application to receive the location information for the wireless device;

determining that the client application is either not an authorized client application or not authorized to receive the location information; and

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denying the client application access to the location information.

26. The method of claim 25 further comprising:
- notifying the wireless device that the client application is not authorized to receive the location information; and
 - updating the subscriber profile to authorize the client application to receive the location information during subsequent requests.

D. Prior Art Relied Upon

Havinis '931	U.S. Patent No. 6,104,931	Aug. 15, 2000	Ex. 1004
Landgren	U.S. Patent No. 6,115,754	Sep. 5, 2000	Ex. 1005
Kingdon	U.S. Patent No. 6,138,003	Oct. 24, 2000	Ex. 1006
Piccionelli	U.S. Patent No. 6,154,172	Nov. 28, 2000	Ex. 1007
Leonhardt ²		1996	Ex. 1008

E. Alleged Grounds of Unpatentability

Petitioner contends claims 25–29 of the '752 patent are unpatentable based on the following grounds. *See* Pet. 25–27.

Basis	Reference(s)	Claim(s) Challenged
§ 101	None	25–29
§ 112, first paragraph	None	26
§ 103	Havinis '931 and Piccionelli	25–29
§ 103	Havinis '931 and Leonhardt	25–29
§ 103	Landgren and Piccionelli	25–29

² Ulf Leonhardt & Jeff Magee, *Towards a General Location Service for Mobile Environments*, Proceedings of the Third Int'l Workshop on Servs. in Distributed & Networked Env'ts 43–50 (1996).

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Basis	Reference(s)	Claim(s) Challenged
§ 103	Landgren and Leonhardt	25–29
§ 103	Kingdon and Piccionelli	25–29

II. ANALYSIS

A. *Claim Construction*

As a step in our analysis, we determine the meaning of the claims for purposes of this decision. In a covered business method patent review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. *See* 37 C.F.R. § 42.300(b) (2013). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). We construe the terms below in accordance with these principles.

1. “Spatial Limitation on Access to the Location Information”

Petitioner contends we should construe “spatial limitation on access to the location information” in claim 25 to mean “limitation on access to location information that depends on the mobile device’s current location at the time the request for location information is made.” Pet. 22–23. Upon our review of the ’752 patent specification, however, we conclude the meaning of “spatial limitation” is not so limited. In particular, in addition to the mobile device’s

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location at the time the request is made, the specification indicates location information may be stored with corresponding time information, and then retrieved from memory at the time of the request. *See Ex. 1001, 4:56–5:16.* We find Patent Owner’s proposed construction, “a limitation on access to location information that is spatial in nature” (Prelim. Resp. 18–19), to be unhelpful. We therefore construe “spatial limitation on access to the location information” in claim 25 to mean “limitation on access to location information that depends on the mobile device’s location.”

2. *“Temporal Limitation on Access to the Location Information”*

Petitioner and Patent Owner disagree concerning the meaning of “temporal limitation on access to the location information” in claim 25. *See Pet. 23; Prelim. Resp. 19–20.* However, we need not construe this limitation because it does not affect our analysis in this case.

3. *“At Least One of”*

Petitioner contends we should construe “at least one of” in claim 25 to mean “one or more.” Pet. 23–24. Patent Owner does not comment on the meaning of this claim limitation. We decline to adopt Petitioner’s proposal, because the meaning of “at least one of” is sufficiently plain without further construction.

4. *“Subscriber Profile”*

We additionally find it necessary to construe “subscriber profile” in claim 25 because this claim term plays a large role in Patent Owner’s preliminary response. The ’752 patent specification indicates a “subscriber” is an operator or user of the wireless device identified in claim 25. *See Ex. 1001, abs.; 1:41–46; 1:63–2:7.* Also, the ’752 patent specification indicates a “profile” is a set of limitations on the provision of location information corresponding to the wireless device, based upon

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subscriber privacy preferences. *See id.* at abs.; 1:14–20; 2:12–20; 6:20–28; 8:60–66. Thus, we construe “subscriber profile” as a set of limitations on the provision of location information corresponding to the wireless device, based upon the privacy preferences of the wireless device user.

B. Covered Business Method Patent Review

AIA § 18(a) provides for post-grant review of covered business method patents. A “covered business method patent” is one that “claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” AIA § 18(d); *see also* 37 C.F.R. § 42.301 (2013). For the following reasons, we conclude the ’752 patent is eligible for covered business method patent review.

1. Financial Product or Service

The parties disagree regarding whether the ’752 patent meets the financial product or service requirement. For purposes of determining whether a patent is eligible for covered business method patent review, we focus on the claims. *See* Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48,734, 48,736 (Aug. 14, 2012) (responses to comments 4 and 8). A patent need have only one claim directed to a covered business method to be eligible for covered business method patent review. *See id.* In this case, the parties focus their arguments on claim 25 of the ’752 patent.

In promulgating rules for covered business method reviews, the Office considered the legislative intent and history behind the AIA’s definition of a covered business method patent. *See id.* at 48,735–36 (responses to comments 1–

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7). The “legislative history explains that the definition of covered business method patent was drafted to encompass patents ‘claiming activities that are financial in nature, incidental to a financial activity or complementary to a financial activity.’” *Id.* at 48,735 (response to comment 1, citing 157 CONG. REC. S5432 (daily ed. Sept. 8, 2011) (statement of Sen. Schumer)). The legislative history also indicates “financial product or service” should be interpreted broadly. *Id.* Thus, the term is not limited to products or services of the financial services industry. *See* 77 Fed. Reg. 48,734, 48,735–36 (responses to comments 2–3); *see also LinkedIn Corp. v. AvMarkets Inc.*, CBM2013-00025, Paper 13 (Institution of CBM Patent Review) 9–10 (PTAB Nov. 12, 2013).

Claim 25 of the ’752 patent recites a method of controlling access to location information for wireless communications devices, wherein a “client application” requests such location information. Ex. 1001, 16:18–22. Petitioner, relying on the ’752 patent disclosure at column 11, lines 12–13, contends the ’752 patent specification discloses such client applications may be “used in business applications incidental or complimentary to financial products or services.” Pet. 8. The cited disclosure provides:

Other *client applications* may be service or goods providers whose *business is geographically oriented*. For example, if a wireless communications device is in the area of a particular hotel, restaurant, and/or store, the business may want to know that, so relevant advertising may be transmitted to the wireless communications device.

Ex. 1001, 11:12–17 (emphases added). Petitioner points to the first sentence of this disclosure, and contends the ’752 patent is a covered business method patent because “banks and other financial service companies” are “geographically oriented” businesses. Pet. 8. Patent Owner responds that if we were to accept

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Petitioner's contention in this regard, then "any patent even remotely related to an application that might be utilized in a financial nature would be eligible for CBM review." Prelim. Resp. 13–14. We conclude neither party has presented a relevant analysis because, as we indicated above, the "financial product or service" requirement for covered business method patent review is not limited to products or services of the financial services industry. *See* 77 Fed. Reg. 48,734, 48,735–36 (responses to comments 2–3).

The proper inquiry, instead, is whether the patent claims activities that are financial in nature, incidental to a financial activity, or complementary to a financial activity.³ We, therefore, consider Petitioner's citations to the '752 patent's disclosure relating to the "client application" of claim 25 in light of this standard. The '752 patent disclosure indicates the "client application" may be associated with a service provider or a goods provider, such as a hotel, restaurant, or store, that wants to know a wireless device is in its area so relevant advertising may be transmitted to the wireless device. *See* Ex. 1001, 11:12–17. Thus, the subject matter recited in claim 25 of the '752 patent is incidental or complementary to the financial activity of service or product sales. Therefore, claim 25 is directed to a method for performing data processing or other operations used in the practice, administration, or management of a financial product or service.

2. *Exclusion for Technological Inventions*

The definition of "covered business method patent" expressly excludes "patents for technological inventions." AIA § 18(d)(1); *see also* 37 C.F.R.

³ See, e.g., *Salesforce.com, Inc. v. VirtualAgility, Inc.*, CBM2013-00024, Paper 16 (Institution of CBM Patent Review) 10–11 (PTAB Nov. 19, 2013); *LinkedIn Corp. v. AvMarkets Inc.*, CBM2013-00025, Paper 13 (Institution of CBM Patent Review) 9–10 (PTAB Nov. 12, 2013); *Apple Inc. v. Sightsound Techs., LLC*, CBM2013-00023, Paper 12 (Institution of CBM Patent Review) 12–13 (PTAB Oct. 8, 2013).

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§ 42.301(a) (2013). To determine whether a patent is for a technological invention, we consider on a case-by-case basis “whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art; and solves a technical problem using a technical solution.” 37 C.F.R.

§ 42.301(b) (2013). The parties disagree regarding whether claim 25 meets the technological invention exclusion.

We are persuaded by Petitioner’s argument that claim 25 is not a “technological invention” excluded from covered business method patent review. In particular, the Office has indicated the following claim drafting techniques “would not typically render a patent a technological invention”:

(a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.

(b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,763–64 (Aug. 14, 2012). On the record presently before us, we determine the hardware components of claim 25 (i.e., wireless communication devices, a wireless communication network, a client application, and a memory) were known prior art technologies before the filing of the ’752 patent in 2001. *See, e.g.*, Ex. 1004; Ex. 1005; Ex. 1006. The data manipulations recited in claim 25 are, thus, a process or method that is not “typically” a technological invention, even if the process or method is novel and non-obvious, under example (b) of the Office Patent Trial

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Practice Guide. Patent Owner’s arguments do not persuade us that the present case is an atypical case in this regard.

In conclusion, based on the present record, claim 25 of the ’752 patent does not recite a “technological invention” excluded from covered business method patent review.

C. Non-Statutory Subject Matter

Petitioner contends claims 25–29 of the ’752 patent fail to recite patentable subject matter under 35 U.S.C. § 101, because they fall under the judicially created exception encompassing “abstract ideas.” *See Pet.* 27–43. Specifically, Petitioner contends a person could perform every step of claim 25 without using a computer, by using a pen and paper or even the person’s own mind, which impermissibly enters the realm of unpatentable abstract ideas and mental processes. *See Pet.* 30–34. On this record, we agree.

Patent Owner contends that recitations directed to a wireless device, a client application, a memory, and a wireless communication network, in claims 25–29, are adequate references to “material objects” to render claims 25–29 sufficiently “concrete,” as opposed to “abstract,” under the rubric set forth in *Ultramercial v. Hulu*, 722 F.3d 1335, 1343 (Fed. Cir. 2013). *See Prelim. Resp.* 20–28. For purposes of this decision, we disagree. As an example, while independent claim 25 does recite “receiving a request from a *client application* for location information for a *wireless device*” (emphasized added), the “receiving” step is written such that the receipt of the request from the client application does not exclude receiving the request in the mind of a user. Such breadth in claim wording to encompass mental processes indicates that the recitation of “wireless device” and “client application” are ancillary to the abstract idea set forth in the “receiving” step, and thus insufficient to confer subject matter eligibility. The same analysis is

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applicable to the other steps of independent claim 25. For similar reasons, the recitation of “wireless communications” in the preamble is not determinative. Accordingly, due to the breadth of the claim language, claims 25–29 cover mental processes, and contrary to Patent Owner’s assertions, we are hard pressed to envision a scenario where covering mental processes is not effectively a preemption of all practical applications and implementations of an abstract idea.

Therefore, we conclude Petitioner has demonstrated it is more likely than not that claims 25–29 of the ’752 patent are unpatentable under § 101.

D. Lack of Written Description Support for Claim 26

Petitioner contends claim 26 of the ’752 patent is unpatentable under 35 U.S.C. § 112, first paragraph, because the specification does not contain a written description of the subject matter recited in that claim. *See* Pet. 43–46. On the record before us, we are persuaded by this contention.

1. Notifying Wireless Device of Lack of Authorization

Petitioner first contends the ’752 patent specification fails to describe “notifying the wireless device that the client application is not authorized to receive the location information” (“the ‘notifying’ step”), as recited in claim 26. *See* Pet. 43–45. Petitioner acknowledges the ’752 patent describes notifying the *client application* when a request for location information is denied, but contends there is no description of notifying the *wireless device*. *See id.*

Patent Owner contends, and we agree, that the ’752 patent specification repeatedly discloses notifying the wireless device. *See* Prelim. Resp. 29–30 (citing Ex. 1001, 2:64–65; 9:26–35; 9:49–51; 10:31–45; 12:44–45; 13:7–13). Each of those references, however, discloses notifying the wireless device *when a request for location information is made*, and not when it is denied, as recited in claim 26.

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Patent Owner nonetheless contends: “It naturally follows, that these notifications would include information regarding whether the request was authorized or denied authorization.” *Id.* at 30. That contention, however, does not address the standard for compliance with the written description requirement of 35 U.S.C. § 112, first paragraph. That standard is whether the patent specification reasonably conveys to those skilled in the art that the inventor(s) had possession of the claimed subject matter as of the filing date. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The disclosure in the ’752 patent specification of notifying a wireless device when a request for location information is made does not necessarily convey that the inventors of the ’752 patent had possession of notifying the wireless device that a client application is *not* authorized to receive the location information.

Patent Owner also contends the ’752 patent specification discloses a logging function whereby denying a client application authorization is recorded in memory, and further discloses that such logs may be provided to the wireless device. *See* Prelim. Resp. 30–31 (citing Ex. 1001, figs. 5, 6A, 6B; 11:53–55; 13:13–16). We agree with Patent Owner that the cited portions of the ’752 patent specification disclose logging at least some instances when a request for location information is denied. *See* Ex. 1001, 11:53–55. However, we do not agree that the cited portions of the ’752 patent specification disclose such logs may be provided to the wireless device. In particular, while the final step of Figure 6B indicates a log is sent “to all parties who wish to receive” the log, that step is executed only *after* location information is transmitted to the client application. *See* Ex. 1001, fig. 6B; 13:13–17. In that situation, access to location information was granted, not denied, so the log would not reflect a lack of authorization, as required by claim 26. We are not persuaded that one of ordinary skill in the art would understand that the sending of

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a log as disclosed in Figure 6B would include the denial information disclosed at column 11, lines 53–55.

Patent Owner finally relies on the disclosure of U.S. Provisional Patent Application 60/269,506, which the '752 patent incorporates by reference. *See* Prelim. Resp. 31 (citing Ex. 1020, at 22; 42). The cited portions of the provisional application pertinently indicate only that a location gateway may initiate a dialogue with the subscriber “regarding permission for a location request” (Ex. 1020, at 22), and SMS messaging may be used for “notification of request for permissions” and “notification of event/trigger (e.g. proximity or calendar event)” (Ex. 1020, at 42). Patent Owner’s reliance is inapposite, however, as none of these cited portions disclose a denial of authorization as recited in claim 26.

For all the foregoing reasons, we conclude it is more likely than not that notification of the wireless device as recited in claim 26 of the '752 patent is not described in the '752 patent specification as required by 35 U.S.C. § 112, first paragraph.

2. *Combination of Steps*

Petitioner also contends the '752 patent specification fails to describe the two steps of claim 26 in combination. *See* Pet. 45. As just discussed above, Petitioner has presented information that demonstrates it is more likely than not that the “notifying” step of claim 26 is not described in the '752 patent specification. It necessarily follows that it is more likely than not that the '752 patent specification fails to describe the two steps of claim 26, the “notifying” step and the “updating” step, in combination.

Nonetheless, we further address Patent Owner’s contention that claim 26 does not require the “notifying” step to be performed prior to the “updating” step. *See* Prelim. Resp. 28–29; 32–33. According to Patent Owner, the '752 patent

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specification need only describe the two steps of claim 26 in isolation from each other to satisfy 35 U.S.C. § 112, first paragraph. *See id.*

We disagree with Patent Owner’s construction of claim 26, because the “updating” step in claim 26 authorizes the client application to receive the location information “during subsequent requests.” *See Ex. 1001, 16:41–46.* The term “subsequent” indicates the “updating” step follows the “notifying” step in time. That is, the “updating” step authorizes the client application to receive location information “subsequent” to the notification recited in the “notifying” step of claim 26. Patent Owner’s citations to the ’752 patent’s disclosure relating to the “updating” step do not disclose such a temporal requirement relative to the “notifying” step, as required by claim 26. *See Prelim. Resp. 32–33 (citing Ex. 1001, 2:42–45; 6:20–32).*

For all the foregoing reasons, we determine it is more likely than not that the ’752 patent specification does not describe the two-step combination recited in claim 26 as required by 35 U.S.C. § 112, first paragraph.

E. Obviousness Over Havinis ’931 and Leonhardt

Petitioner contends claims 25–29 of the ’752 patent are unpatentable under 35 U.S.C. § 103 as obvious over Havinis ’931 and Leonhardt. *See Pet. 56–61.* On the record before us, we are persuaded by this contention as to claim 25, but not claims 26–29.

1. Havinis ’931

Havinis ’931 discloses a system and method for defining location services. *See Ex. 1004, title; abs.* Figure 3 of Havinis ’931 is reproduced here:

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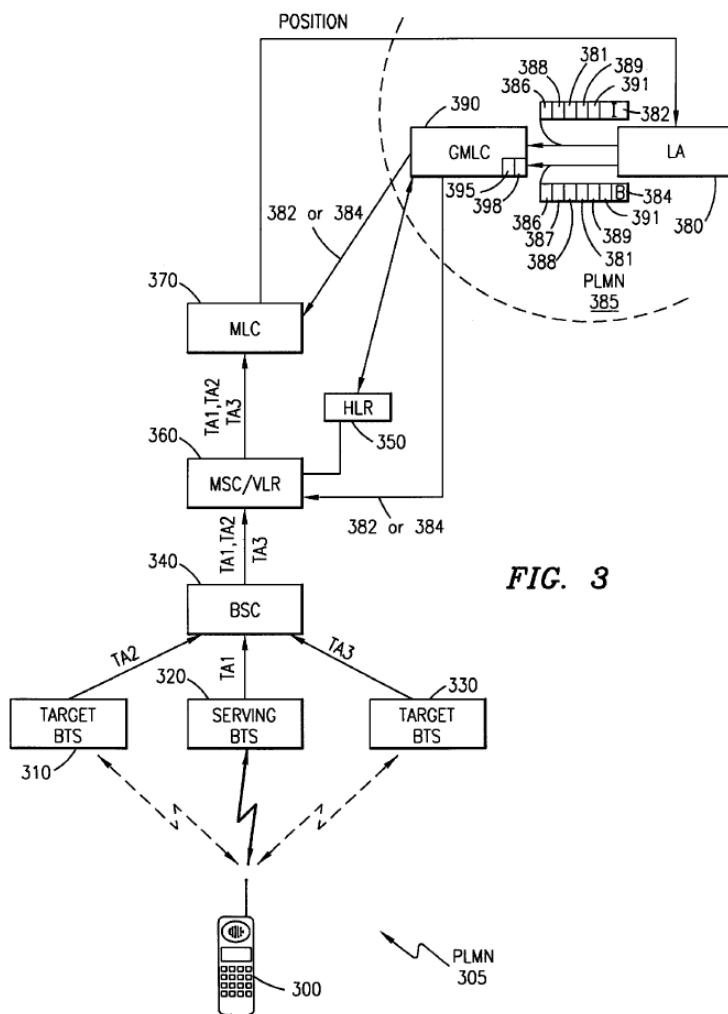


FIG. 3

Figure 3 discloses positioning of mobile terminal 300 by location application 380.

As illustrated in Figure 3, location application 380 may be permitted to determine a location of mobile terminal 300 operating in Public Land Mobile Network (“PLMN”) 305. *See id.* at 4:35–55; 1:34–35.

Location application 380 must register first with Gateway Mobile Location Center (“GMLC”) 390 to define “its location services profile” 398, which is stored within a database of GMLC 390. *Id.* at 4:35–41. Location services profile 398 specifies “all of the relevant service parameters specific to” location application 380. *Id.* at 4:41–43. Profile 398 defines groups of mobile terminal subscribers

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which that location application 380 may locate by the Mobile Station International Subscriber Directory Number (“MSISDN”) of each mobile terminal in the group. *See id.* at 4:50–55. GMLC 390 assigns a Location Application Identifier Number (“LAIN”) 386 identifying location application 380 and its location services profile 398. *See id.* at 4:56–60.

When location application 380 sends interactive positioning request 382 to GMLC 390, request 382 includes LAIN 386 and identifies mobile terminal(s) to be positioned by MSISDN(s) or by group ID. *See id.* at 4:60–66; 5:5–15. GMLC 390 then cross-references the MSISDN(s) or group ID with LAIN 386 to verify location application 380 has the authority to position the mobile terminal(s) identified in request 382. *See id.* at 5:5–15. If no authority is found, GMLC 390 rejects request 382 and sends a rejection message to location application 380. *See id.* at fig. 5; 7:28–33.

GMLC 390 also verifies the mobile terminal(s) to be positioned allow positioning to be performed. *See id.* at 7:46–53. That is, GMLC 390 checks the “positioning subscription information, e.g., privacy indication” of each mobile terminal, as maintained by components of PLMN 305. *See id.* If a mobile terminal does not allow positioning, request 382 is rejected and a rejection message is sent to location application 380. *See id.* at 7:66–8:2.

2. Leonhardt

Leonhardt describes “how to meet the need for location-dependent information by introducing a general-purpose location service for mobile environments.” Ex. 1008, at 43, col. 1. Leonhardt discloses “location domains as a powerful framework for presenting and protecting location information,” and “investigates mechanisms to exactly specify and supervise the level of access to

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location data that is wanted.” *Id.* at 43, abs.; 43, col. 2. Such security issues are discussed in Section 5 of Leonhardt. *See id.* at 43, col. 2.

Figures 2 and 3 of Leonhardt are reproduced here:

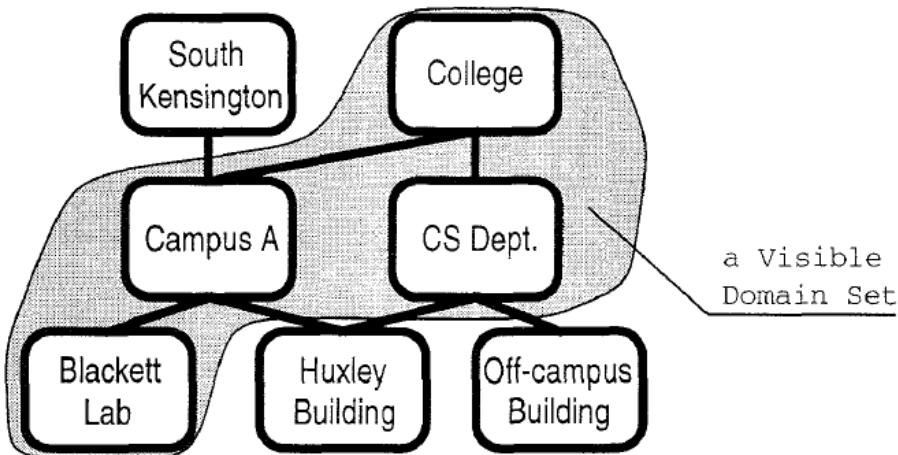
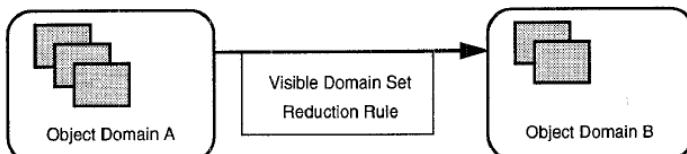


Figure 2. A location domain hierarchy, shown with a shaded *visible domain set* for access control

Figure 2 discloses a location domain hierarchy.

Location Access Control Rule:



Example:

Source Domain	Visible Domain Set	Reduction Rule	Target Domain
<STUDENTS>	{Blackett Lab, Campus A, College, CS Department}	(Huxley, Off-C.) ->College * ->Nowhere	<STAFF>

Figure 3. Location access control rules express authorisation policies

Figure 3 discloses location access control rules express authorization policies.

Leonhardt discloses “visible domain sets (VDS) in access rules to specify authorisation to ‘see’ a located-object in certain domains,” including reduction rules to prevent disclosure of a location outside a VDS. *Id.* at 47, cols. 1–2. In this

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way, location access policies may be applied to a pair of querying and target objects, where those objects typically are defined using domains. *See id.* at 47, col. 2. “[C]onstraints on the time of the query, the location, and the policy set of the querying objects may be used to modify the scope of the policy.” *Id.* In one example illustrated in Figure 3, a source domain may be “students” and a target domain may be “staff.” Then students’ level of access to location information for a particular staff member may depend on a location of the staff member. *See id.* at 47, col. 2.

3. *Independent Claim 25*

Petitioner argues Havinis ’931 discloses the preamble of claim 25, which recites “[a] method of controlling access to location information for wireless communications devices operating in a wireless communications network.” Patent Owner contends Petitioner does not establish Havinis ’931 discloses such a method. *See Prelim Resp.* 35. We, however, agree with Petitioner, because Havinis ’931 discloses that the GMLC receives an interactive positioning request from a location application for location information for a mobile terminal, and provides such information only if authorized by the LAIN and permitted by the mobile terminal’s privacy indication.

The method of claim 25 further includes “retrieving a subscriber profile from a memory, the subscriber profile including a list of authorized client applications and a permission set for each of the authorized client applications.” Petitioner contends the register of location services profiles maintained by the GMLC database of Havinis ’931 constitutes the claimed subscriber profile. *See Pet.* 49. Patent Owner contends the location services profiles of Havinis ’931 do not constitute a “subscriber profile.” *See Prelim. Resp.* 35–36; 38–39. Specifically, Patent Owner asserts the location services profiles of Havinis ’931

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“relate[] to a particular *location application*, rather than being related to a *subscriber (or wireless device)*.” *Id.* at 36 (emphases added). Patent Owner also asserts the location services profiles of Havinis ’931 do not include a list of authorized client applications and a permission set for each authorized client application.

We are persuaded by Petitioner’s contention that the location services profiles maintained by the GMLC database of Havinis ’931 constitute a subscriber profile. In particular, Havinis ’931 indicates the profile of a given location application defines the mobile terminal(s) that the location application is authorized to locate. Thus, we are not persuaded by Patent Owner’s contention that the location services profiles in Havinis ’931 do not relate to particular subscribers or wireless devices. While the record before us suggests the location services profiles are defined and controlled by location applications and not by individual mobile terminal subscribers, that does not distinguish the location services profiles from the “subscriber profile” recited in claim 25. Those profiles still include limitations on the provision of location information corresponding to wireless devices, based upon the privacy preferences of the wireless device user (i.e., the mobile terminal user must provide the mobile terminal’s MSISDN to the location application to be included in the location services profile).

We also are persuaded by Petitioner’s contention that the subscriber profile of Havinis ’931 includes a list of authorized client applications and a permission set for each such application. The GMLC database of Havinis ’931 maintains a list of location applications having LAINs, which correspond to the claimed authorized client applications. Moreover, each LAIN identifies a location services profile including all relevant service parameters, which corresponds to the claimed

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permission set. Thus, we are not persuaded by Patent Owner’s contention that Havinis ’931 fails to disclose these claimed features.

Claim 25 further requires that the subscriber profile “permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information.” Petitioner contends Leonhardt discloses the “spatial limitation” component of that requirement. *See* Pet. 57–59. On this record, we agree with Petitioner, because Leonhardt discloses requests for location information from querying objects may be constrained depending on the location of the target objects to be located.

Patent Owner disputes Petitioner’s reliance on Leonhardt. *See* Prelim. Resp. 39–41. Patent Owner faults Petitioner for failing to identify how Leonhardt discloses a requesting client application, a subscriber profile, a list of authorized client applications, or a permission set. *See id.* We do not find these contentions persuasive, however, because Patent Owner’s contentions are inapposite. Havinis ’931, and not Leonhardt, is cited for disclosing the requesting client application, the subscriber profile, the list of authorized client applications, and the permission set as recited in claim 25. The record presently before us indicates the only portion of the “retrieving” limitation in claim 25 that is missing from Havinis ’931 is “a spatial limitation on access to the location information,” and Leonhardt discloses such a feature.

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As to the remaining limitation of claim 25, Petitioner contends, and Patent Owner does not dispute in its preliminary response, that it is more likely than not that Havinis '931 discloses them. We are persuaded by Petitioner's contentions in this regard, based on the present record.

Regarding the ultimate conclusion of obviousness, Petitioner has submitted the Declaration of Dr. Donald Cox stating:

I believe that claims 25-29 of the '752 patent are obvious over Havinis '931 in view of Leonhardt. I believe that a POSA would have found it obvious to modify the system of Havinis '931 to include Leonhardt's location access policies, in order to further Havinis '931's goals of managing positioning requests sent by Location Applications such that location services can be tailored individually to meet the needs of the mobile device user. (See [Ex.] 1004, 3:33-40.) Doing so would have been nothing more than the application of a known method of privacy management to achieve a predictable result.

Ex. 1002 ¶ 76; *see also* Pet. 59. Patent Owner describes Dr. Cox's analysis as presenting a "flawed motivation" that "overstates the focus of Havinis '931, which is solely focused on how location applications gain access to location information." Prelim. Resp. 41–42.

However, "the [§ 103] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Also, "any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 420. Under those standards, even if the cited portions of Havinis '931 do not support directly Petitioner's proposition, we are persuaded the

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rationale set forth in the Cox Declaration is sufficient to establish a prima case of obviousness.

Accordingly, we conclude Petitioner has demonstrated it is more likely than not that claim 25 of the '752 patent is unpatentable as obvious over Havinis '931 and Leonhardt.

4. *Dependent Claims 26–29*

Claim 26 depends from claim 25, and recites “notifying the wireless device that the client application is not authorized to receive the location information.” Ex. 1001, 16:41–46. Petitioner contends that this limitation is met by the disclosure in Havinis '931 that if a location request of a location application is denied, then a rejection message is sent to the *location application*. See Pet. 60 (citing Ex. 1004, 7:47–8:1). This disclosure, however, does not correspond to notifying the *wireless device* as required by claim 26. Indeed, according to Petitioner, claim 26 is unpatentable under 35 U.S.C. § 112, first paragraph, because the '752 patent specification discloses notifying only the client application that the location information was denied, not the wireless device. See Pet. 44–45.

Petitioner does not rely on Leonhardt in regard to the “notifying” step of claim 26, and does not contend this step would have been obvious even if not explicitly disclosed. See Pet. 60. Claims 27–29 each ultimately depend from claim 26. Therefore, the petition does not demonstrate it is more likely than not that claims 26–29 are unpatentable as obvious over Havinis '931 and Leonhardt.

F. *Obviousness Over Landgren and Leonhardt*

Petitioner contends claims 25–29 of the '752 patent are unpatentable under 35 U.S.C. § 103 as obvious over Landgren and Leonhardt. See Pet. 69–72. On the

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record before us, we are persuaded by this contention as to claim 25, but not claims 26–29.

1. Landgren

Landgren discloses a system and method for appending location information concerning a mobile unit onto communications of the mobile unit with the Internet. *See Ex. 1005, abs.* Figure 1A of Landgren is reproduced here:

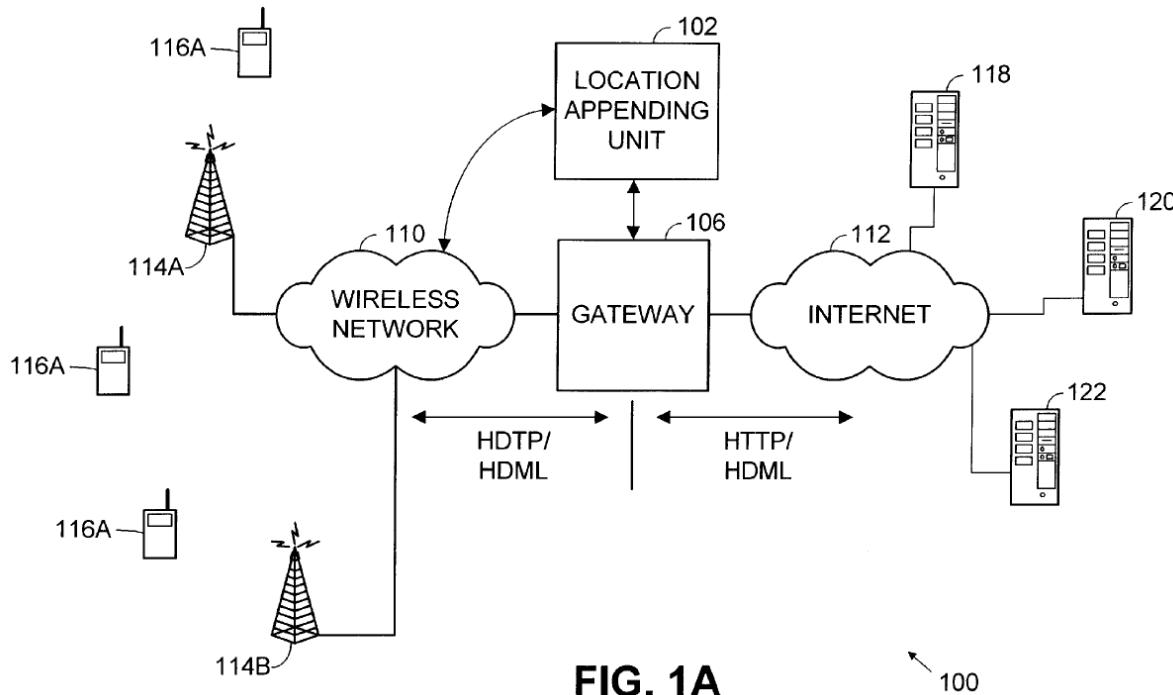


Figure 1A discloses an installation of location appending unit 102.

As illustrated in Figure 1A, location appending unit 102 is coupled to gateway 106 between wireless network 110 and Internet 112. *See id.* at 4:49–53. Gateway 106 permits communication between mobile units 116A and Internet web servers, such as server 118. *See id.* at 4:60–67. Location appending unit 102 monitors communications passing through gateway 106 and when such communications require location information corresponding to mobile unit 116A, unit 102

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determines the location information and appends it to the communications. *See id.* at 5:28–41.

Before location appending unit 102 appends the location information, however, it accesses a subscriber profile of the mobile unit 116A. *See id.* at fig. 3; 8:56–59. If the subscriber profile allows location information to be appended, then it is appended. *See id.* at fig. 3; 8:59–62. If the subscriber profile does not allow location information to be appended, then it is not appended. *See id.* at fig. 3; 8:62–65.

2. *Independent Claim 25*

Petitioner contends Landgren discloses each and every limitation of claim 25, including a “subscriber profile,” except that the subscriber profile of Landgren does not include “a list of authorized client applications and a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information.” *See Pet.* 61–66; 69–70. We are persuaded by this contention, for the following reasons.

We first address Patent Owner’s objection to Petitioner’s analysis of Landgren. The method of claim 25 includes “receiving a request from a client application for location information for a wireless device.” Petitioner contends this limitation is met in Landgren when an application residing on a web server registers with the location appendage unit. *See Pet.* 62 (citing Ex. 1005, 8:21–26; abs.). Patent Owner contends Landgren does not disclose this limitation, because “the request for information is generated by the mobile unit” and not the application on the web server. Prelim. Resp. 43–44; 45; 47–48. We agree with Petitioner, as Landgren discloses the web server application registers with the location appending unit, thereby “requesting” that unit to append mobile unit

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location information to communications from mobile units to the web server application. Ex. 1001, 5:52–65; 8:21–42.

Turning to Leonhardt, Petitioner relies on Leonhardt as disclosing the subscriber profile requirements not disclosed by Landgren. *See* Pet. 63 (stating only that Landgren includes a “subscriber profile”); 69–70 (discussing Leonhardt). According to Petitioner, the location access policies of Leonhardt correspond to the claimed subscriber profile. *See id.* at 57 (citing Ex. 1002 (Cox Decl.) ¶ 69). Petitioner contends the reduction rules of Leonhardt correspond to the claimed permission set, and the reduction rules include spatial limitations on access to location information. *See id.* at 59 (citing Ex. 1002 (Cox Decl.) ¶¶ 68–69). Patent Owner, by contrast, contends Leonhardt does not disclose a subscriber profile, does not disclose a list of authorized client applications, and does not disclose a permission set for each authorized client application. *See* Prelim. Resp. 39–41; 47–48.

We are persuaded by Petitioner’s contentions that Leonhardt discloses the “subscriber profile” requirements of claim 25. The location access policies of Leonhardt constitute a subscriber profile, in that they identify subscribers or target objects (e.g., staff members) that may be located by querying objects (e.g., students). As to the recited authorized client applications, the querying objects (students) operate through applications to request location data, and given that such location data may be provided, the applications used by the querying objects (students) are authorized. Even one such authorized application is enough to satisfy claim 25’s “list,” despite Patent Owner’s suggestion that claim 25 requires multiple authorized applications. *See* Prelim. Resp. 40. Finally, the reduction rules of Leonhardt correspond to the recited “permission set includ[ing] . . . spatial limitations on access to location information,” in that they constrain requests for

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location information from querying objects (students) depending on the location of the target objects (staff members) to be located.

Next regarding the ultimate conclusion of obviousness, Petitioner has submitted the Cox Declaration, stating:

I believe that claims 25-29 of the '752 patent are obvious over Landgren in view of Leonhardt. I believe that a POSA would have found it obvious to modify the system of Landgren to include Leonhardt's location access policies and reduction rules, in order to further Landgren's goals of managing positioning requests sent by applications such that location services can be tailored individually to meet the needs of the mobile device user. Doing so would have been nothing more than the application of a known method of privacy management to achieve a predictable result.

Ex. 1002 ¶ 78; *see also* Pet. 70. We conclude, on this record, the Cox Declaration thereby provides a sufficient rationale to combine the two references. *See KSR Int'l*, 550 U.S. at 418, 420. Patent Owner contends the combination of Landgren and Leonhardt would not result in the claimed invention, because neither reference discloses the subject matter for which it is cited by Petitioner. *See* Prelim. Resp. 48–49. For the reasons provided above, however, we are persuaded Landgren and Leonhardt disclose the subject matter for which they are cited by Petitioner.

Accordingly, we conclude Petitioner has demonstrated it is more likely than not that claim 25 of the '752 patent is unpatentable as obvious over Landgren and Leonhardt.

3. *Dependent Claims 26–29*

Claim 26 depends from claim 25, and recites “notifying the wireless device that the client application is not authorized to receive the location information.”

Ex. 1001, 16:41–46. Petitioner contends that limitation is met by the disclosure in

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Landgren at column 8, lines 21–42. *See* Pet. 71. We do not see anything in the cited disclosure that corresponds to notifying the wireless device that the client application is not authorized to receive the location information.

Petitioner does not rely on Leonhardt in regard to the “notifying” step of claim 26, and does not contend this step would have been obvious even if not explicitly disclosed. *See id.* Claims 27–29 each ultimately depend from claim 26. Therefore, we conclude the petition does not demonstrate it is more likely than not that claims 26–29 are unpatentable as obvious over Landgren and Leonhardt.

**G. *Obviousness Over Havinis '931 and Piccionelli,
or Landgren and Piccionelli***

Petitioner contends claims 25–29 of the '752 patent are unpatentable under 35 U.S.C. § 103 as obvious over Havinis '931 and Piccionelli (*see* Pet. 46–56), and as obvious over Landgren and Piccionelli (*see* Pet. 61–69). In both cases, Petitioner relies on Piccionelli as disclosing the requirement in claim 25 for the subscriber profile to include “at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information.” *See* Pet. 49–51; 63. In particular, Petitioner views Piccionelli as having a subscriber profile with a spatial limitation on access to location information. *See id.* On the record before us, we are not persuaded by these contentions.

1. *Piccionelli*

Piccionelli discloses a system and process for limiting distribution of information to potential recipient processors, based on a geographic location of potential recipient processors. *See* Ex. 1007, title; abs. Figure 1 of Piccionelli is reproduced below:

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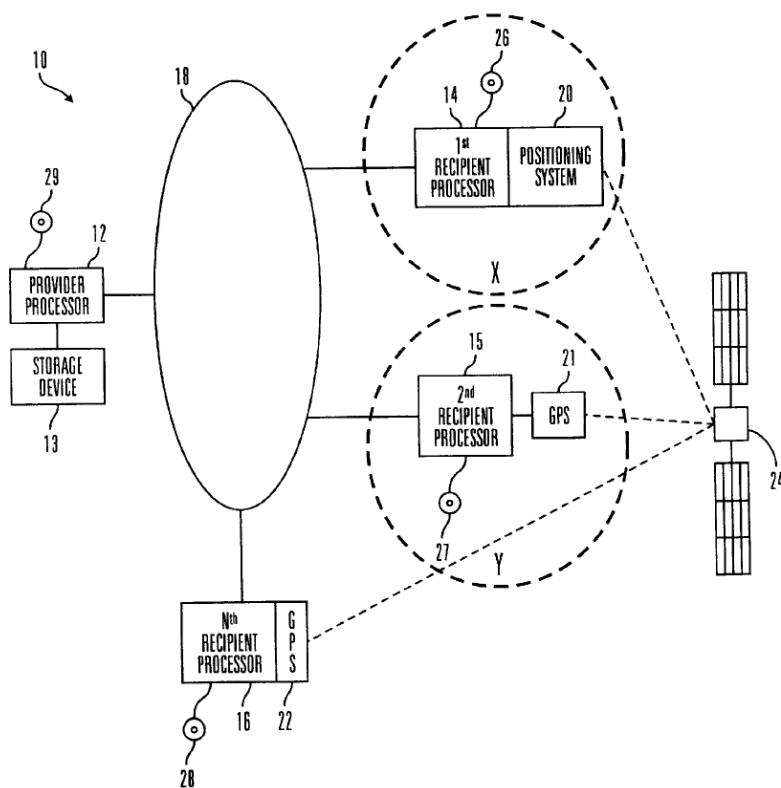


Figure 1 is a generalized schematic view of system 10.

Piccionelli's system 10 includes provider processor 12 and three exemplary recipient processors 14–16 disposed at mutually different geographic locations X, Y, etc. *See id.* at 3:58–64; 5:15–22. Each recipient processor 14–16 has an associated means 20–22 to provide a position signal indicating a geographic location of the means and, thereby, associated processor 14–16. *See id.* at 5:33–35; 6:12–17. Recipient processor 14 sends a request to provider processor 12 for a product or service, and includes information identifying a geographic location X of recipient processor 14 with the request. *See id.* at 6:66–7:10.

Provider processor 12 compares that geographic location information “with a table or list of non-restricted (or restricted or limited) regions” to determine whether recipient processor 14 “is within a restricted, limited or non-restricted access region.” *Id.* at 11:60–66. If the geographic location information falls

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within a restricted region, provider processor 12 does not provide the requested product or service. *See id.* at 2:42–61. If the geographic location information falls within a non-restricted region, provider processor 12 provides the requested product or service. *See id.*

2. *Claims 25–29*

According to Petitioner, Piccioneelli discloses the “subscriber profile” of independent claim 25, as the pre-stored table or list of products or services having geographic limitations or restrictions. *See Pet. 50* (citing Ex. 1002 (Cox Decl.) ¶¶ 63–65). Petitioner urges Piccioneelli thereby provides a “spatial limitation *on access to the location information*” as recited in claim 25. *See id.* (emphasis added).

We conclude Petitioner’s analysis of Piccioneelli is flawed. In Piccioneelli, the location information of the recipient processor is provided freely — without any limitation — in order to obtain access to a product or service controlled by the provider processor. In Piccioneelli, it is access to the product or service of the provider processor that is limited, not access to information identifying the location of the recipient processor. Thus, we are not persuaded by Petitioner’s contention that Piccioneelli discloses claim 25’s requirement that access to the location information is limited by a spatial limitation. Petitioner does not rely on Havinis ’931 or Landgren in this regard, and Petitioner moreover does not contend this limitation would have been obvious even if not disclosed explicitly. Therefore, we determine Petitioner has not demonstrated it is more likely than not that claim 25 and its dependent claims 26–29 are unpatentable as obvious over Havinis ’931 and Piccioneelli, or Landgren and Piccioneelli.

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H. Obviousness Over Kingdon and Piccionelli

Petitioner contends claims 25–29 of the '752 patent are unpatentable under 35 U.S.C. § 103 as obvious over Kingdon and Piccionelli. *See* Pet. 72–79. On the record before us, we are not persuaded by this contention.

Petitioner's various comparisons of the Kingdon disclosure with the limitations of independent claim 25 indicate Petitioner's view is that Kingdon discloses each and every limitation of claim 25. *See id.* at 72–77. That is, for each limitation of claim 25, Petitioner provides a citation to Kingdon as disclosing the limitation. *See id.* Nonetheless, Petitioner does not contend claim 25 is unpatentable as anticipated by Kingdon, but rather contends claim 25 is unpatentable as obvious over Kingdon and Piccionelli. *See id.* To the extent Petitioner seeks Office review of claim 25 on the ground of being unpatentable as obvious over Kingdon alone, Petitioner does not identify any reason(s) to combine the elements allegedly disclosed in Kingdon in the fashion recited in claim 25. *See Pet. 75–77; see also KSR Int'l*, 550 U.S. at 418. Thus, Petitioner has not demonstrated it is more likely than not that claim 25 is unpatentable as obvious over Kingdon alone.

Petitioner's obviousness analysis relies on Piccionelli solely for its alleged disclosure of a subscriber profile with a spatial limitation on access to location information. *See Pet. 75–77.* For the reasons already set forth above, however, Petitioner has not established Piccionelli contains such a disclosure.

Thus, we conclude Petitioner has not demonstrated it is more likely than not that claim 25 and its dependent claims 26–29 are unpatentable as obvious over Kingdon and Piccionelli.

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III. CONCLUSION

On the present record, we determine the information presented in the petition demonstrates it is more likely than not that claims 25–29 of the '752 patent are unpatentable. The Board, however, has not made a final determination under 35 U.S.C. § 328(a) with respect to the patentability of the challenged claims.

IV. ORDER

For the foregoing reasons, it is

ORDERED that pursuant to 35 U.S.C. § 324(a), a covered business method patent review is hereby instituted as to claims 25–29 of the '752 patent on the following grounds:

- A. Claims 25–29 under 35 U.S.C. § 101, as being directed to non-statutory subject matter;
- B. Claim 26 under 35 U.S.C. § 112, first paragraph, as failing to have written description support in the specification;
- C. Claim 25 under 35 U.S.C. § 103 as being unpatentable as obvious over Havinis '931 and Leonhardt; and
- D. Claim 25 under 35 U.S.C. § 103 as being unpatentable as obvious over Landgren and Leonhardt.

FURTHER ORDERED that all other grounds raised in the petition are denied because they are deficient for reasons discussed above.

FURTHER ORDERED that pursuant to 35 U.S.C. § 324(d) and 37 C.F.R. § 42.4 (2013), notice is hereby given of the institution of a trial; the trial commencing on the entry date of this Order.

FURTHER ORDERED that an initial conference call with the Board is scheduled for Tuesday, May 6, 2014 at 2:00 pm Eastern time; the parties are directed to the Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,765–66, for

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guidance in preparing for the initial conference call, and should be prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

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FOR PETITIONER:

Michael V. Messinger
Joseph E. Mutschelknaus
STERNE, KESSLER, GOLDSTEIN, & FOX P.L.L.C.
mikem-PTAB@skgf.com
jmutsche-PTAB@skgf.com

FOR PATENT OWNER:

Timothy E. Bianchi
Thomas C. Reynolds
SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
tbianchi@slwip.com
treyolds@slwip.com
SLW-PTAB@slwip.com



US007203752B2

(12) **United States Patent**
Rice et al.

(10) **Patent No.:** US 7,203,752 B2
(45) **Date of Patent:** Apr. 10, 2007

(54) **METHOD AND SYSTEM FOR MANAGING LOCATION INFORMATION FOR WIRELESS COMMUNICATIONS DEVICES**

(75) Inventors: **Christopher R. Rice**, Broomfield, CO (US); **Cameron Fieber**, Victoria (CA); **Ron Poulin**, Victoria (CA); **Peter Jones**, Richmond Surrey (GB)

(73) Assignee: **Openwave Systems Inc.**, Redwood City, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 680 days.

(21) Appl. No.: **10/076,682**

(22) Filed: **Feb. 14, 2002**

(65) **Prior Publication Data**

US 2003/0023726 A1 Jan. 30, 2003

Related U.S. Application Data

(60) Provisional application No. 60/269,506, filed on Feb. 16, 2001.

(51) **Int. Cl.**

G06F 15/173 (2006.01)

(52) **U.S. Cl.** **709/225; 709/227; 709/217; 379/201.01; 379/201.02**

(58) **Field of Classification Search** **709/220, 709/222, 201, 203, 207, 225, 240, 246, 227, 709/217; 701/200, 213; 73/178 R; 705/1, 705/13, 18, 21; 706/45; 707/1, 9, 10; 710/105; 713/150, 161, 200; 379/201.01, 201.02**

See application file for complete search history.

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Primary Examiner—David Wiley

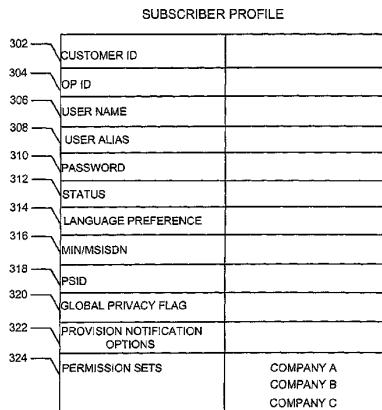
Assistant Examiner—Phuoc H. Nguyen

(74) *Attorney, Agent, or Firm*—Townsend and Townsend and Crew LLP

(57) **ABSTRACT**

A system and method provide for establishment and use of permission sets for subscribers where client applications in a wireless communication environment are requesting location information for a particular wireless communications device from a provider of such information. The system described herein provides the capability for a wireless communications device operator to establish a profile wherein limitations may be placed on the provision of such location information based on such things as the requesting party, spatial and temporal limitations, as well as granularity. The system described herein may be further configured such that an authentication process is performed for client application seeking location information which would require the registration of such client applications with a centralized processing system.

32 Claims, 7 Drawing Sheets



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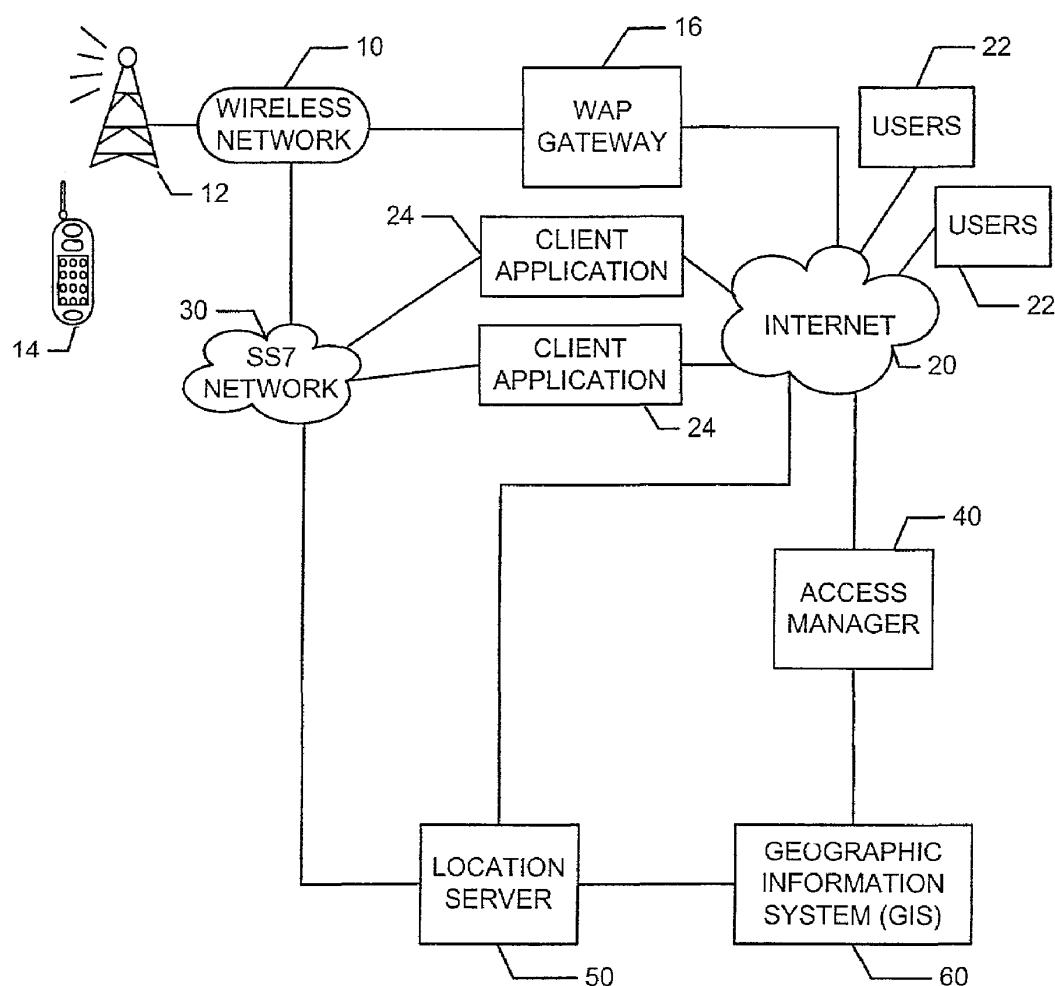
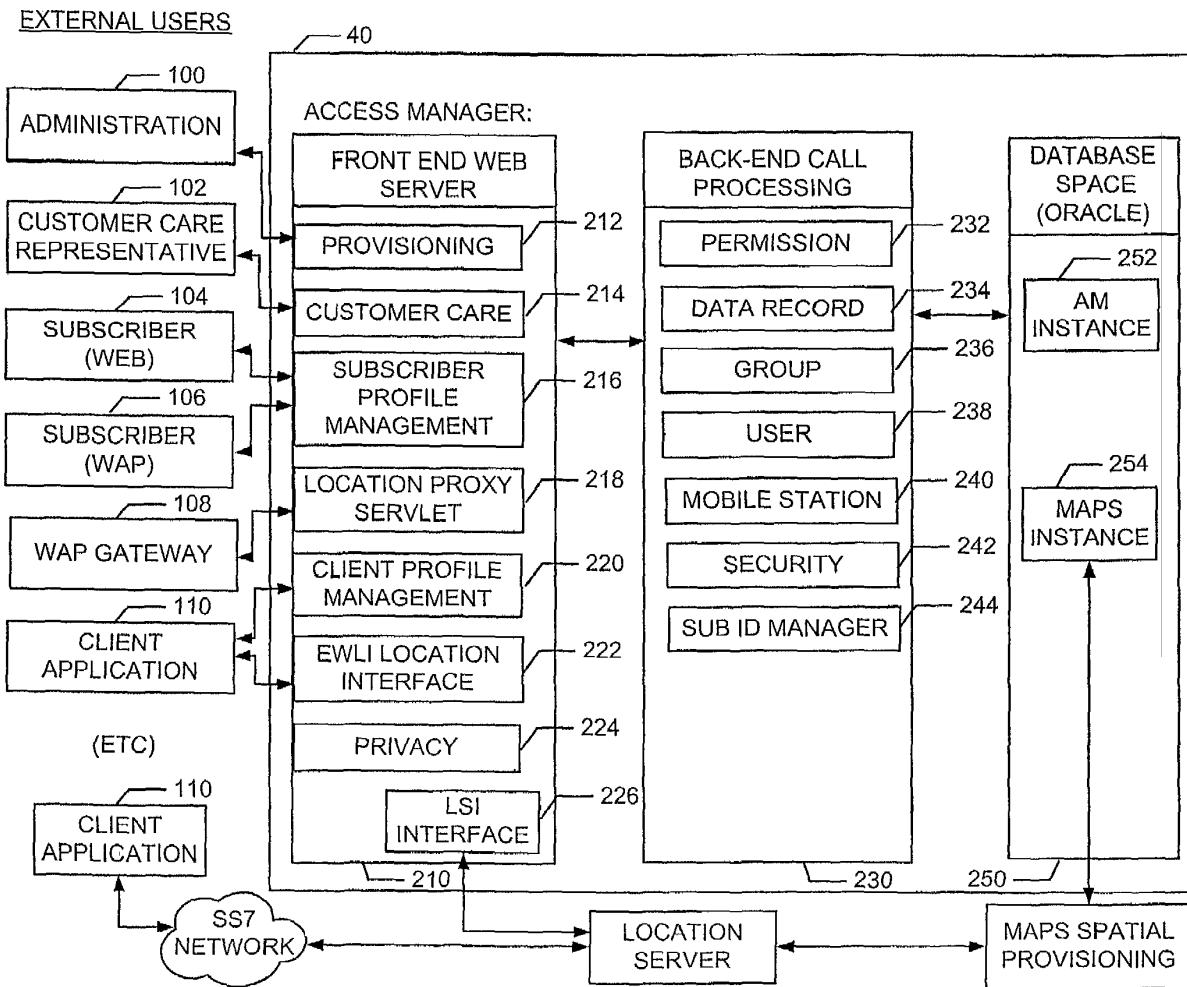
**FIG. 1**

FIG 2



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SUBSCRIBER PROFILE

302	CUSTOMER ID	
304	OP ID	
306	USER NAME	
308	USER ALIAS	
310	PASSWORD	
312	STATUS	
314	LANGUAGE PREFERENCE	
316	MIN/MSISDN	
318	PSID	
320	GLOBAL PRIVACY FLAG	
322	PROVISION NOTIFICATION OPTIONS	
324	PERMISSION SETS	COMPANY A COMPANY B COMPANY C

FIG. 3

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402	CLIENT ID	
404	APPLICATION ID	
406	APPLICATION PASSWORD	
408	APPLICATION NAME	
410	APPLICATION TYPE	
412	APPLICATION DESCRIPTION	
414	STATUS	
416	USER ID	
418	REQUESTRATE THRESH	
420	ALLOWED REQUEST TYPES	
422	ALLOWED ACCURACY	
424	HIGHEST ALLOWED PRIORITY	
426	PRIVACY OVERRIDE	
428	COORD PREFERENCE	
430	CACHE OPTIONS	
432	LOCATION NOTIFICATION	
434	PROVISION NOTIFICATION	

FIG. 4

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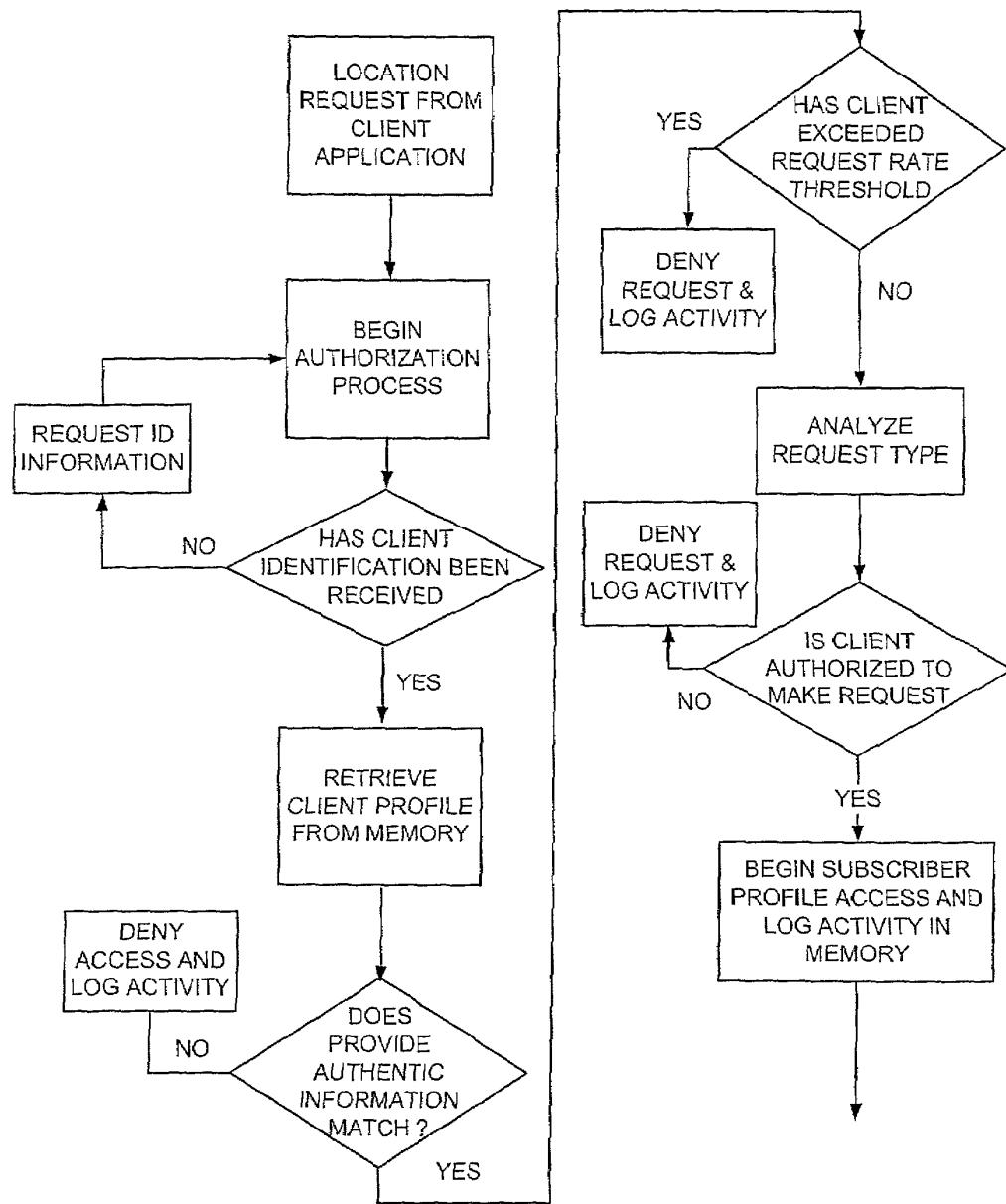


FIG. 5

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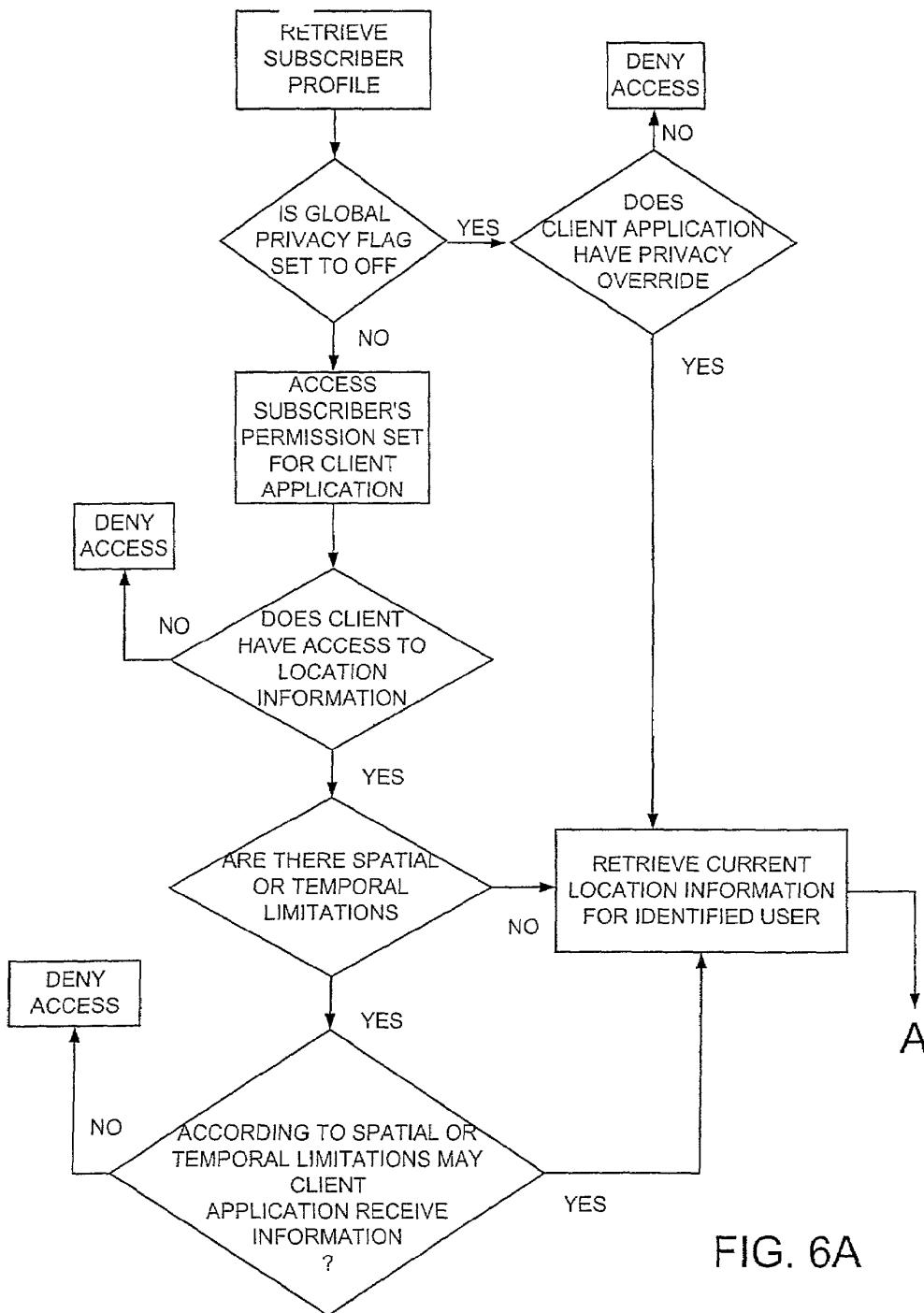
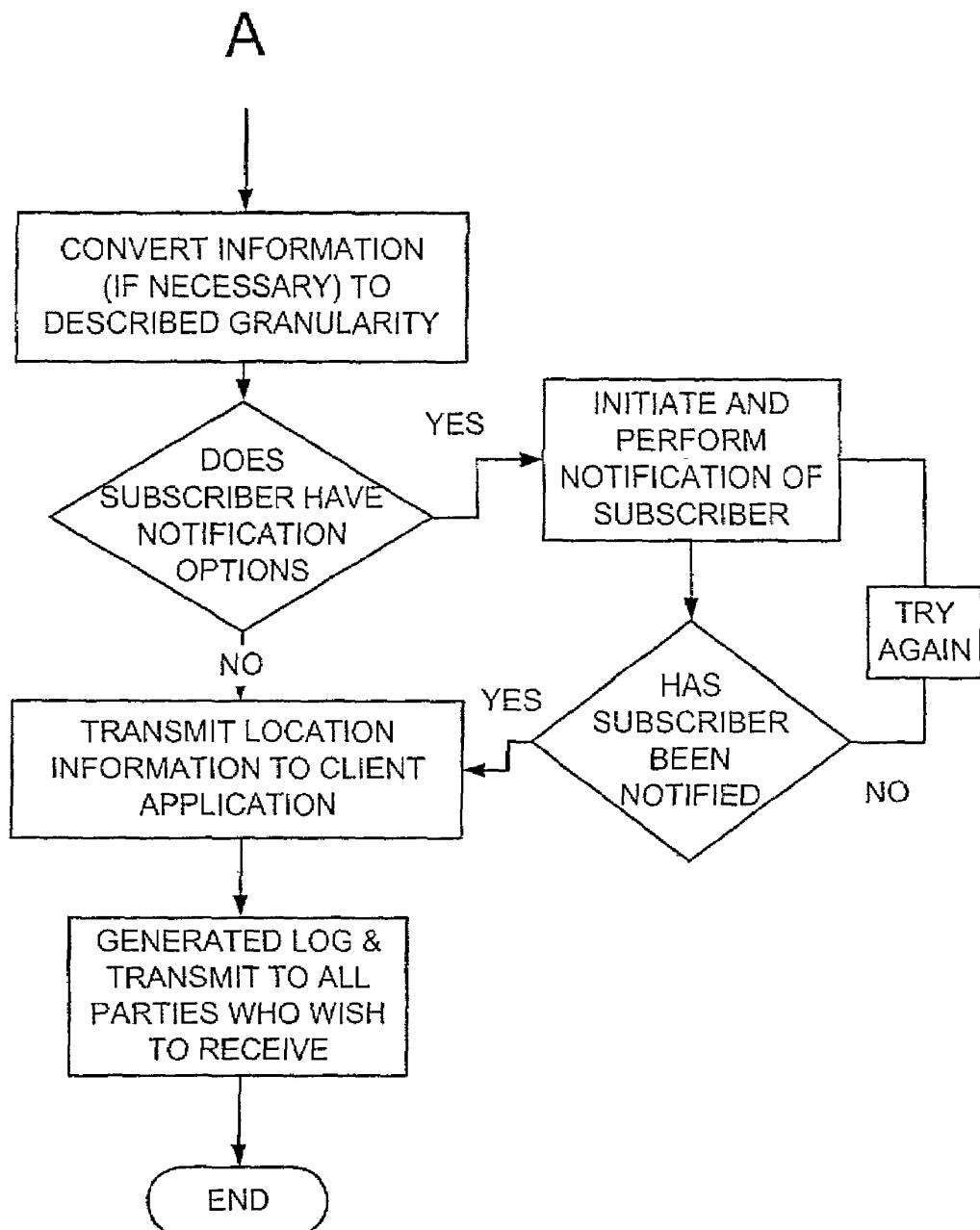


FIG. 6A

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US 7,203,752 B2**FIG. 6B**

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**METHOD AND SYSTEM FOR MANAGING
LOCATION INFORMATION FOR WIRELESS
COMMUNICATIONS DEVICES**

RELATED APPLICATIONS

This application claims priority under 35 U.S.C. §119 to prior U.S. Provisional Patent Application Ser. No. 60/269, 506 filed Feb. 16, 2001, the entirety of which is hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention relates to a system and method for managing distribution of location information generated for wireless communications devices, and more particularly to providing a control system configurable to limit access to a subscriber's wireless device based on subscriber privacy preferences.

BACKGROUND OF THE INVENTION

In recent times the use of wireless communications devices has grown dramatically. In many countries throughout the world sophisticated wireless communications networks have been built so that wireless communications are possible from almost any geographic location. Devices employable in these networks may include wireless telephones and pagers, as well as specially configured palm top computers and PDA's. Types of communication possible by these devices may include the exchange of audio and textual information as well as the establishment of connections over the Internet. As the use of wireless communications devices has grown, so have the number of services related to the provision of wireless communications.

One such service which is available and is associated with the use of wireless communications devices, is the provision of location based services which focus on the issue of providing value-added services to subscribers based on the geographic location of a wireless device within a wireless network. In one form of the service, subscribers may be able to access information about businesses which are in close geographical proximity to their wireless communications device. As the subscriber to the services moves about within different locations in the wireless network, additional queries may be made as to businesses located in their vicinity.

As a modification of the above-described location services, businesses or other organizations may wish to track the location of a wireless device on a periodic basis and then use this information in any number of different ways. For example, a business selling services may provide different information as to the locations of their establishments based on where the subscriber is located. Further, businesses which deal in the fast efficient delivery of services may wish to track their employees through monitoring the location of wireless communication devices.

SUMMARY OF THE INVENTION

The inventors have recognized that certain privacy issues may exist with regards to the provision of location information of wireless communications devices to requesting client applications. Specifically, a wireless device user may wish to limit access to their location information according to any number of privacy preferences, such as the time of day of the request, their current location at the time the request is made, the accuracy of the provided information

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and/or the party who is seeking such information. As such, the inventors have further recognized that providing an interface system between the party seeking the location information and the system which collects and stores the location information provides to the wireless communication device user the ability to control the access which the third parties may have to their location information.

Described herein is a system and method for controlling access to location information which has been generated by a system which monitors and stores location information gathered for subscriber wireless communications devices. Included in the system is a memory which is configurable to store records (profiles) for each wireless communications device for which location information is being gathered. At a minimum, each profile may include identification information for the device, a description of at least one client application to which location information may be provided when requested, and privacy preferences which controls the manner in which location information is provided to the client application.

Also included in the system may be one or more interfaces through which external parties may gain access. The interfaces are configured at a minimum to process requests for location information from a client application. As part of the request processing, the interface is configured to access the memory and retrieve a profile for the wireless communications device for which the location information is requested. Based on whether the requesting client application is listed in the profile, the location information may then be provided in a manner defined by the privacy preferences established for the particular client application. Privacy preferences includable in a particular profile for a subscriber may comprise total denial of access, limited access during a specified time period, limited access to a particular type of entity making the request, access only granted to request of a particular granularity, and access only granted when the wireless communications device is within a particular geographic region.

The interface may be further configured such that subscribers may access the system described herein over a data network, such as the Internet, and access their own subscriber profile. Through a variety of interactive displays, the subscriber may change listing of authorized client application, privacy preferences, as well as access information to the profile (i.e., passwords). The interfaces provided for this access may be in HTML format for access with an Internet web browser or wireless application protocol (WAP) when employing an Internet enabled wireless communications device.

The interface described above may be further configured to perform authorization and authentication processes for client applications which periodically request location information for one or more wireless communications devices. Profiles for authorized client applications are created and stored in memory and may be accessible by a client application in a manner similar to what was described above with regards to subscribers accessing their own profiles. Included in the client application profile may be such items as client identification and access information (e.g. ID's and password) location request processing for information such as the client application such as location request types, time periods when the location request are limited, limits on frequency on the location request, granularity for the location information provided, notification provisions for alerting a wireless communications device when a request for location information is made. When a client application accesses the system described herein identification information

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tion is first provided and compared against the information in the client application profile. If the information matches, additional function may then be performed.

Further included in the system described herein may be another interface specially configured for communicating with a location server device. The location server is configured to perform the function of collecting location information generated for one or more wireless communication devices and providing this information to the system described herein. The system may be configured to keep a cache of location information for particular wireless communications devices over a predetermined period of time. The system described herein may also be configured such that it is resident on the same computing platform as the location server.

The system described herein may be further configured such that other ancillary functions are performed with regards to the provisions of location information to requesting client applications. These functions may include automated billing for each instance where location information is provided. This may be performed through a data network connection with a remote billing function. The system may be further configured such that requests for location information are processed on a priority basis, that is, client applications with the highest priority have their request filled first. This may be especially advantageous with regards to providing information to emergency services which may request location information for a particular wireless communications device.

In operation, a client application will submit a request over a data network to the system requesting location information for an identified wireless communications device. Included in the request will be identification information for the particular wireless communications device. This information may be in the form of Mobile Station ISDN Number/Mobile Identification Number (MSISDN/MIN), permanent identifier (PSID), and time/session limited identifier (SSID). As was described above, each subscriber has a profile stored in memory which includes corresponding identification information for the wireless communications device, a listing of client applications authorized to receive location information, as well as privacy preferences employable in providing location information to the requesting client application. Once the profile is retrieved from memory an analysis is performed as to whether the client application may receive location information, and if so, in what form. After this analysis is complete, the location information is retrieved, either from a remotely located location server or a data cache and provided to the requesting client application.

When a request for location information is made by a client application, before steps are performed in providing location information, the authentication and authorization process for most requests is performed. As was mentioned above, client applications which employ the system described herein each have a client application profile which is stored in memory. When a client application accesses the system described herein, the information in the client profile is compared against information provided by the client application, and if the information matches, the location request is processed according to controls and preferences included in both the client and subscriber profiles.

In yet another step, both the client and subscribers may access the system described herein, to view and modify their respective profiles. Upon detected access by either type of party and then through appropriate selection made at the login screen, interactive screen displays are presented

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through which the particular party may view and/or amend their profile information. Once an indication is provided that the session is completed, the changes entered are saved as part of the particular profile. The system herein is configured such that the operation described herein may be performed over the data network using a commercial web browser or through a WAP enable wireless communications device connecting through a WAP gateway.

BRIEF DESCRIPTIONS OF THE DRAWINGS

FIG. 1 discloses a communications architecture within which the access system described herein operates.

FIG. 2 discloses an operational architecture for the access server.

FIG. 3 discloses an example profile for a subscriber.

FIG. 4 discloses an example profile for a client application.

FIG. 5 discloses a flow chart which describes the steps performed in the authentication process for client applications.

FIGS. 6A and 6B disclose a flow chart which describes the steps performed in performing access management of the location information for a wireless communications device.

DETAILED DESCRIPTION

Disclosed in FIG. 1 is an overall system architecture within which a wireless communications device and the system described herein operate. Shown in particular is wireless communications device 14 which communicates via wireless tower 12 over the wireless network 10. The wireless communications device 14 may comprise any number of known wireless communications devices such as a wireless telephone including 3G phones with direct HTML interfaces, a pager, and/or a PDA which was either designed for wireless communications or later configured to perform these functions. The wireless communications devices may be further configured for short message service (SMS). The wireless communications network 10 is in communication with the SS7 network 30 which in turn is part of the public switch telephone network (PSTN).

As is known, wireless communications devices may be configured to include web-browsers which allow for navigating over the Internet. In order to provide for this type of communication, the wireless communications device is configured to employ protocols such as the wireless application protocol (WAP). The wireless network 10 may provide a connection to the Internet 20 through a WAP gateway 16 in order to provide for these types of communications.

Continuing on with FIG. 1, in connection with the Internet 20 and the SS7 network 30, is location server 50. The location server 50 is a platform for collecting location data and location primitives for designated wireless communications devices and then providing this information to requesting applications. In one configuration of the invention, the location server periodically receives location requests and in turn requests the location information from one or more types of location finding equipment (LFE) as to the current location of a wireless communications device and then stores the location information in memory. In another configuration of the invention, the location server actively initiates contact with one or more types of LFE to obtain the location of a subscriber's wireless device. An LFE may employ different location finding technologies, e.g., GPS, AOA, TDOA, and Cell sector technologies. The stored location information may preferably include at least location

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information and corresponding time information for particular wireless communications devices, and may further include location uncertainty information, travel speed information, and travel direction information.

In response to a location request from an external application, the location server may retrieve location information from memory or, alternatively, one or more of the LFE's may be prompted to obtain location information. In this regard, the location request may include a specification regarding the desired location information, for example, how recent or how accurate the information should be. If the memory includes information conforming to the specification, then this information is retrieved and output to a requesting application. Otherwise, appropriate information may be obtained by prompting one or more LFE's to locate the wireless communications device of interest.

According to the system described herein, requests for location information request are typically made through access server **40**, but requests from trusted applications may be made through the SS7 network **30** directly to location server **50**. Mapping data used in conjunction with providing visual presentation of location is received from a geographic information system (GIS) **60**. A more detailed discussion of the operation of the access server **40** is provided below.

The access server **40** may comprise a number of components networked across the data network, a separate server, and/or a system configured on the same platform as the location server **50**. In one configuration, the access server may be configured on one or more Application Servers such as BEA System's WebLogic product., although one skilled in the art would realize that any number of commercially available computing platforms may be employed. The access server is configured such that it may establish communications through any numbers of interfaces. According to the system described herein, most requests for location information for wireless communications devices are received at the access server either over the telephony network or over the Internet. In response to the requests, the access server is configured to perform a number of different functions. These functions include authentication of client applications requesting location information, privacy screening for subscribers when supplying location information to authenticated client applications, providing access for subscribers and client applications so that they may control their own profiles, and various other interfaces for administrative functions such as billing for location services.

Disclosed in FIG. 2 is a system architecture **200** for the access server which includes the various processing submodules employed. Also shown are the external entities which regularly communicate with the access server. Establishing a connection with these entities may be performed in any number of ways. Connections may be established either over the public switch telephone network (PSTN) or over the Internet. In the case where a wireless communications device is employed to establish a connection, a WAP gateway from the PSTN to the Internet may be employed.

The access server in one configuration of the invention may be partitioned in to three separate areas. A first portion of the access server includes a front end web server **210** which may comprise servlet space. The front end web server **210** includes a number of processing modules which act as interfaces for the various entities (i.e., client applications, subscribers, customer care representatives, administrators, etc.) who access the server. The back end call processing **230** is configured to include programming objects, rules, and listings in memory which are employable by the various interface functions resident in the front end web service **210**.

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The back end call processing may be configured in Enterprise Java Bean (EJB) space. The database space is configured to store instances employed in conjunction with the operation of the access server and the GIS. The database space **250** may be resident in one location or it may be distributed across one or more networks. Portions of the database space **250** may also be associated with other systems to which the system **200** may have access.

Included in the servlet space **210** is provisioning module **212** which is accessible by administrative function **100** and is configurable to perform various low level functions with regards to configuring the system for operation. Further included in the access server is a customer care module **214** through which customer care representatives **102** may access the system. Functions to be performed through this interface may include the creation modification, or deletion of subscriber and client application profiles. The configuration of both the client and subscriber profiles will be described in greater detail below.

The subscriber profile management module **216** is an interface which allows subscribers to access their profiles which have been established for the provision of location services. As will be described in greater detail below, a profile includes descriptive information for each subscriber as well as a number of different privacy preferences establishable by the subscriber in order to control the provision of a subscriber's location information to requesting client applications. Subscribers profiles are accessible by a subscriber through any number means which include: over the Internet through use of a local web browser, or the use of an enabled wireless communication device employing a network interface protocol such as WAP. As part of the subscriber profile management **216**, various interactive screen displays may be presented (in formats such as HTML for Internet access and WAP for wireless device access) through which a subscriber may perform various functions with regards to managing their profile.

Further included in the front end web server **210** is location proxy servlet **218**. As was mentioned above, Internet enabled wireless communications devices may connect to the Internet through WAP gateway **108**. In one configuration of the invention, a number of location sensitive URL's may be stored in the WAP gateway **108** which will cause a redirection of the WAP session to the location proxy servlet **218**. After suitable authorization, (of either the subscriber or client application) the inquiry received from the gateway will be further processed to obtain a location of the subscriber.

The location may be returned to the original origin server as a name/value pair. The location proxy **218** may support three methods of subscriber identification: 1) anonymous-no identifiers provided (WAP sessions state must be maintained independent of proxy) 2) ESSID-an external identifier obtained from the WAP gateway (or WAP session) is past along with location and is used to maintain session state/context, and 3) SSID-a session identifier is created and delivered with location to the origin server. The location proxy does not assign new identifiers to subscribers ID's. It accepts the MSISDN, optional application ID, transaction ID and date range to filter the location against.

A function of the WAP location proxy is to service anonymous location distribution to clients for which there is no direct association (permission) between the subscriber and client (typically a content service). In this case, no identifier is included with the response and the client application makes no additional request directly to the access server through a location transaction interface. The client

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profile will determine what type of identifier is required. The client profile may have a component which is specific to the WAP location proxy. A session ID may be used to allow the origin server to make subsequent requests directly through the interface, or to preauthorize location requests from a specific client for the duration of the session.

It is possible that a request received from the WAP gateway may not contain the necessary parameters defined as mandatory for the location transaction interface. In that case, a single set of defaults will apply and will be compared against parameters in the client profile for all WAP location requests. These defaults will be stored in template-driven default profile for location proxy client, and would be configured through the administration functions.

In conjunction with providing access for subscribers to manage their profiles, the same functionality is provided for client applications through client profile management module 218. Access to this module may be gained over the Internet. Once access is attained, various interactive screen displays may be presented wherein a client application may access and modify their own profile. Access to the profile may be controlled through an authorization and authentication process.

An external wireless location interface (EWLI) 222 is also accessible by client applications 110 over either the Internet or the SS7 network. The EWLI 222 may be described as XML/HTTP based interface with DTDs adapted to a proprietary or industry standard format. This module is configured to provide a transaction interface which enables processing of location requests from external client applications. Before processing the location request, the EWLI 222 performs an authorization and authentication test to determine if the requesting client application is authorized to request such location information. Various procedures performed during the authentication authorization include checking identification information and passwords provided against the information in the client profile, making a determination that the request rate has not been exceeded, and that the client application is still classified as active.

In providing location information for a particular wireless communications device the EWLI 222 works in conjunction with, the privacy module 224 which is configured to access the subscriber profile stored in memory and perform an analysis of whether and to what degree, location information may be provided to the requesting client application. If the necessary criteria are met, the privacy module signals to the EWLI 222 that the location information may be provided and the EWLI then acts to retrieve this information either from a local cache or from the location server.

The location server interface 226 is configured to provide for communications with location server 50. In many situations, trusted client application may directly establish a connection with the location server over the SS7 network or other protocol. In such cases privacy functions may still need to be performed and the location service interface 226 is configured to provide a connection from the location server to the privacy module 224. Once the privacy preferences are identified, the location server may then provide the location information in the desired manner.

Interconnected with the front end web server 210 is the back end call processing 230 which may be resident on the same server or otherwise distributed across a network. Included in this portion of the server are a number of objects which are employable by one or more of the interfaces in the front end web server. The back end call processing 230 is further in communication with the database space 250 which may be implemented using compatible database software

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such as Oracle. Stored in the database space 250 which are instances 252 employable by the access server 252 and maps instances 254 employed by GIS 60. Stored in particular in the instances 252 are the profile information for the subscribers and client applications.

Returning to the back end call processing 230, included therein is the permission sub-module 232 which includes the permission objects employable by the EWLI 222 when interpreting the permission preferences for the subscribers. 10 The data record processing module 234 acts as a data cache which is employable to store a running record of location information points for a particular subscribers over a particular period of time. In order to avoid making a request of the location server every time a request is received by a client application, this information may be continually provided by the location server and the data record processing module acts to store a number of location points for each subscriber. Some information requested by client applications may be provided from this data module, however, in certain situations request may be made directly of the location server.

The group object 236 provides a grouping of the client applications according to similar privacy preferences designated by subscribers. Many times the same privacy preferences may apply to a group of client applications (for example, all Microsoft client applications may have similar privacy preferences) such that it simplifies the processing of location request to group these client applications together. The user object 238 includes a listing of subscribers employing the access service described herein. Profiles for each of the users may be retrieved from the instances 252 in the database space.

The mobile station object 240 is a listing of identification codes for each subscribers wireless communications device. The identification codes are resolved in MSISDN and/or MIN.

The security object 242, in conjunction with the permissions object 232, performs the analysis with regards to whether a permission applies to a received location request. 40 When the privacy preferences of a subscriber profile are being analyzed, the security object 242 will access the permission relationships the permission object 232 in order to perform this analysis. Finally the sub ID manager 244 tracks the sub ID's that are assigned to wireless communications devices when location information is provided. In one or more countries, it may be illegal to provide both the telephone number and location information for a particular wireless communications device. As such, sub ID's are assigned to these devices and this number is used to identify the device when a request for location information is made. The sub ID manager 244 merely tracks the relationship between the actual phone number and the assigned sub ID.

Also in connection with the location server 50 and the access server 40 is the GIS 60. This system is configured to employ the location information and stored map information in order to provide a visual display of a wireless communications device location. Some client application or subscribers may have the option of viewing the location information in this format.

As was mentioned above, stored in memory are profiles for both the client applications and subscribers. Disclosed in FIG. 3 is an example of a profile for a subscriber which, as mentioned above, identifies the subscriber's wireless communications devices and includes a listing of privacy preferences for client applications which have been authorized to receive location information. In particular, the profile includes a customer Id 302 which is a unique customer

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identifier for subscribers with one or more MIN/MSISDNs. The operator Id **304** is a numeric identifier (typically 10 digits) used to identify the operator (both service provider and network operator) for which the subscriber is associated with.

The user name **306** is a name established by the subscriber and is used when logging into the system. The user may also employ an alias **308** which is used for subscriber personalization during web, WAP, or SMS interaction. A subscriber profile password **310** may be set by the subscriber, in order to limit access to the profile.

Other items which may be included in the modifiable subscriber profile are the status **312** which indicates whether the subscriber is active or inactive. The language preference **314** indicates the language of choice of the subscriber and may be indicated by a three character code. The MIN/MSISDN **316** is an identification number for the wireless communications device or SIM card in such device. The PSID **318**, a permanent identifier, is not easily derivable from MIN/MSISDN **316**, that may be used to identify subscriber by specified clients during position requests. The global privacy flag **320** when set to "off" blocks all location request, except for privacy override. If "on" is indicated in this box, the permissions described below will define the privacy.

One option provided by the system described herein is for a subscriber to receive a notification on their wireless communications device whenever a location request is made by any client application. In the provision notification option **322**, the subscriber may enter a particular selection for notification. The options may include: employ the application profile option for the requesting client applications, no notification, notify every time but no response required, notify every time, response required (for example through an SMS flash or web notification).

The final entry in the subscriber profile **300** is the permission sets **324** for client applications which will make requests. An entry is included in this part of the profile for each authorized client. Permission sets for each authorized client may include a temporal permission set which identifies the time of day/day of week a particular authorized client may access the location information. The spatial permission set provides a listing of the enabled geographic areas (for example city/county/state), for providing the location information. The granularity filter indicates for a particular client application the allowed accuracy of the location information which is to be delivered. The allowed accuracy may be employable for selecting a particular location technology (i.e., AGPS vs. cell/sector). The subscriber may also indicate in this permission set the type of notification to be received when a location request is made.

Disclosed in FIG. 4 is a client application profile **400** which includes information employed during the authorization and authentication process for client application which a client application may access and modify. The client ID **402** is a unique identifier for a business provider of one or more applications and the application ID **404** is a unique number identifier for each of the client's applications authorized to receive location information. Each client who employs the system described herein may employ multiple applications each of which may request location information. The client ID and the application ID may be employed in conjunction with the application password **406** when a client application logs into the system. The application name **408** may be a character chain used in notification messages and service provisioning selection. The application type **410** may be an integer value employed by the operator to classify

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applications into sub-groups. Further, an application description **412** may be a character description of the application used for subscription pages to describe the application for subscribers.

5 The status **414** may indicate whether the particular application is active or inactive. Only active applications may be allowed to make request of the access server. The user identification **416** portion the client application profiles indicates in what manner a subscriber will be identified when the client application makes a location request. Options include: MIN/MSISDN, PSID and SSID.

The request rate threshold **418** provides a limitation of the maximum number of requests per unit time (request throttling) that the particular client application may make. The 15 allowed request type **420** provides an indication of the types of request allowed for this particular client. A Boolean flag may indicate whether the request is allowed or disallowed. The allowed accuracy **422** provides an indication in horizontal and/or vertical measurements of the accuracy of the 20 provided location information.

The highest allowed priority **424** indicates the highest priority level allowed for this particular client and a default which is used for requests. The privacy override permitted **426** either allows a privacy override (typically set for 25 emergency client applications) or does not allow it. The coordinate preference **428** merely indicates the form in which the particular client application which is to receive the location information. For example, choices may include WGS84, Gauss/Kruger, lambert, UK ordinance, Dutch RD, and Swiss Grid.

The cache option **430** provides an indication of the maximum age of the location information stored in cache which may be provided to the client application. The location notification options **432** may be selected to identify the 30 type of notification a subscriber may receive when a client application makes a location request. The options may include using the subscribers profile settings, no notification, notify subscriber, no response required, and notify subscriber, response required. Finally the provision notification 35 option **434** provides an indication of the type of notification which will be generated when the client application signs up to receive location information for a particular subscriber. The options may include no notification, notify subscriber, no response required, and notify subscriber, response required.

As was described above, the profiles **300** and **400** are accessible by the subscriber and client applications, respectively, over the telephony network or Internet. When an Internet ready wireless communication device is employed, a WAP gateway may be accessed to facilitate the connection. The profiles may be presentable on an interactive HTML (or WAP) based screen display through which the accessing party may modify certain, parameters. Allowed values for each parameter may be selectable from drop/down boxes wherever possible to minimize manual entry errors and default parameters will be assigned to all fields not populated. In addition to the subscriber and client application profile described above, a set of administrative functions may also be included in the access server to configure and maintain various operational parameters within the system which includes: client/subscriber profile template default, subscriber identifiers, the ability to add/modify/delete client applications from the system, and client type definitions.

In typical operation for the system, client applications will 60 periodically make request to access and retrieve the current location of a particular wireless communications device. Requests are typically received through the EWLI location

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interface. According to the invention described herein, the client application may comprise any number of services provided by registered organizations. One service in particular may include emergency services which may be trying to respond to an emergency call received from the wireless communications device. If the location information may be easily located and retrieved, emergency services may be more quickly dispatched. In this situation, high priorities may be given to emergency services which circumvent the entire privacy profile and immediately provides the information.

Other client applications may be service or goods providers whose business is geographically oriented. For example, if a wireless communications device is in the area of a particular hotel, restaurant, and/or store, the business may want to know that, so relevant advertising may be transmitted to the wireless communications device. In another example, the client application may be a business which wishes to periodically track the locations of their employees.

As was described above, one of the first steps performed when a client application is making a location information request, is the authentication and authorization of that particular client application. Disclosed in FIG. 5 is a flow chart which describes in detail the steps performed when authenticating and authorizing a client application. Initially, the client application will access the system either through the EWLI location interface 222 or directly though the location server via the SS7 network, wherein the LS interface 226 will receive the communication. Once the location request is received from the client application, the authentication and authorization process will begin. As an initial step, a query may be made as to whether the client identification number and password have been received. When received, the system will search for the corresponding client application profile in memory.

Once the client application profile is retrieved from memory, a comparison is made between identification information included in the profile and that provided by the client application. If the information does not match, a "denied access" message will be presented to the requesting application. If the proper identification and password information is provided, before any of the subscriber information is identified and retrieved, a query will be made as to whether the particular client has exceeded a request rate threshold. This procedure may be performed by accessing the data log in memory to identify previous requests. If the request rate threshold has been exceeded, the system will deny the request and log the activity.

If the request rate threshold has not been exceeded, a further analysis is made as to whether the type of request being made by the client application is allowed according to the client application's own profile. If the request type is disallowed, the request is denied and the activity is logged in memory. If the client is authorized to make a request, this also noted in memory and the process is begun to retrieve and provide access to location information for the identified wireless communications device.

Disclosed in FIGS. 6A and 6B is a flow chart which describes in detail the steps performed in order to control access to the location information for an identified wireless communications device according to a subscriber's privacy profile. As a first step, using the identification information for the device provided by the requesting party (client application), a search is performed of the database to identify and retrieve the appropriate subscriber profile. The identification information for the subscriber may be received

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by the system in at least two ways. The first way is as a result of the authentication authorization process described in detail in FIG. 5. The other way is through the location server 50 which may be contacted directly by trusted applications (for example emergency services). In this situation, the location server is configured to establish contact with the privacy module 224 which in turn retrieves the subscriber's profile and provides location information according to the profile.

The first query made once the subscriber profile is retrieved, is to whether the global privacy flag is set to "off". A subscriber has the option of completely turning off the privacy profile such that any queries for their location information are denied. The only situation where the location information will be retrieved in this situation is if the client application has a privacy override. If a client does not have the privacy override and the global privacy setting is set to "off", the request will be denied.

If the global privacy flag is not set to "off", the subscriber permission set is then accessed within the profile. In most situations, the subscriber has indicated which client applications may receive location information. Each client application listed may further include one or more limitations as to the manner in which the location information will be provided. If the particular client application is not included in the privacy profile, the request for location information is denied. The subscriber may have the option of configuring their privacy profile such that any and all parties who request the information may be provided the data. However, in most cases it is assumed that the subscriber has specifically indicated that the client application is to receive location information.

If the client application does have access to the location information, the location information is retrieved from a data cache or from the location server. At this point, an analysis is made as to whether, based on the preferences included in the profile, the particular client application may receive the location information. As was mentioned above, each profile includes a permission set for each client application which further specifies a temporal permission set (time of day/day of week), a spatial permission set (enable geographic area-city/country), a granularity filter (allowed accuracy to deliver) as well as a location notification option for notifying the subscriber when a location request is made. Before the location information is provided, a determination is made as to whether, for that client application, there are spatial or temporal limitations. The current spatial and temporal characteristics for the location of the identified wireless communications device are then analyzed and compared against the retrieved permission set. Based on this comparison, a determination is then made as to whether the location information may be provided to the requesting party based on the established permission set.

For example, if the permission set for a particular client application is established such that location information will only be provided when the particular wireless communications device is in Colorado, and the access server detects that the wireless communication device is in New York City, the request for information will be denied. Either in conjunction with or separately, if temporal limitations are put on the provision of the location information, and if the request for location information is made outside of a specified time period, the request for location information will also be denied. The system described herein is configured to account for the movement of the communications device within different time zones.

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Once it is determined that the client application may receive the location information, the granularity permission is analyzed to determine the form in which the information should be provided. If there is no limitation provided then the most specific form of information is provided, otherwise based on the permission set, the information is converted to the noted granularity. A last query is then made to determine whether the subscriber has selected any notification options for being notified when a client application is making a location information request. If there is a notification option chosen, this notification is provided in conjunction with the transmission of the location information to the client application. Also in conjunction with the transmission of the location information, a data log may be updated and various other administrative tasks performed, such as billing, which relates to the provision of the location information to the client application.

The foregoing description of the present invention has been presented for purposes of illustration and description. Furthermore, the description is not intended to limit the invention to the form disclosed herein. Consequently, variations and modifications commensurate with the above teachings, and the skill or knowledge of the relevant art, are within the scope of the present invention. The embodiments described hereinabove are further intended to explain best modes known for practicing the invention and to enable others skilled in the art to utilize the invention in such, or other, embodiments and with various modifications required by the particular applications or uses of the present invention. It is intended that the appended claims be construed to include alternative embodiments to the extent permitted by the prior art.

The invention claimed is:

1. A system for controlling access to location information generated for wireless communications devices, comprising:
 a first memory configured for storing at least one privacy profile for at least one subscriber wireless communications device, wherein the privacy profile includes: identification information for the at least one wireless communications device,
 a list of client applications that are permitted to receive the location information for the at least one wireless communications device, and
 a permission set for each of the client applications in the list of client applications, wherein the permission set comprises at least one of a temporal limitation on access to the location information or a spatial limitation on access to the location information; and
 a first interface accessible over a data network which is configured to access, retrieve and provide the location information for the at least one wireless communications device to the client application wherein prior to provision of the location information the first interface is further configured to access the privacy profile of the at least one wireless communications device in the first memory and, based on an analysis of the list of client applications that are permitted to receive the location information, provide the location information in a manner specified in the profile, which includes but is not limited to denying access to the location information.

2. The system of claim 1 wherein the first interface is further configurable to provide access to the subscriber profile for the at least one wireless communications device and to enable a subscriber accessing the profile to modify at

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least one of: the identification information, at least one privacy profile, and access information to the at least one privacy profile.

3. The system of claim 2 wherein the permission set for each of the client applications includes at least one of: total denial of access, access limited to a time period, access limited to a type of entity making the request, access only granted to request of particular granularity, and access based on user's geographic location.

4. The system of claim 1 wherein the first interface is further configured to perform an authorization and authentication process for requesting client applications which request the location information for the at least one wireless communications device.

5. The system of claim 4 wherein the memory is further configured to include a client profile for each of the requesting client applications wherein the client profile includes at least one of: client identification information and location request processing information.

6. The system of claim 5 wherein the client profile may further include at least one of: allowed location request types, time periods when the location requests are limited, limits on frequency of the location requests, granularity allowed of the location information provided, notification provisions for the at least one wireless communications device.

7. The system of claim 4 wherein the first interface is further configured to provide access to the client profile and enable the requesting client applications to modify the client profiles that they are authorized to access.

8. The system of claim 1 wherein further including a second interface through which communications are established with a location server which provides the location information for the at least one wireless communications device.

9. The system of claim 7 wherein the second interface is configured to receive location requests made through the location server, and to access the subscriber profile and provide access to the location information for the at least one wireless communications device based on analysis of the privacy preferences in the subscriber profile.

10. The system of claim 1 wherein the first interface is configured to communicate over the data network with at least one of: a computer workstation configured with a web browser and a network connection, wireless communications device employing wireless access protocol (WAP) and connecting through a WAP gateway, a wireless communications device configured for short message service (SMS) and a phone configured with a direct HTML browser.

11. The system of claim 1 wherein the first interface is further configured to perform at least one of: automated billing functions related to the requests for the location information received from the requesting applications; provide the location information based on a priority assigned to the client application; and request throttling which controls number of the location requests the client applications are permitted to make within an identified time period.

12. The system of claim 8 wherein at least one of: the first memory and the first interface, are configurable on the same platform as the location server.

13. A method of controlling access to location information generated for wireless communications devices operating in a wireless communications network, comprising:

receiving a request associated with at least one wireless communications device over a data network from a requesting client application;

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accessing a subscriber profile associated with the at least one wireless communications device in memory, wherein the subscriber profile includes:
 a list of authorized client applications; and
 a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information;
 determining whether the requesting client application is an authorized client application;
 determining whether the request is in accordance with the permission set for the authorized client application; and if the requesting client application is an authorized client application and the request is in accordance with the permission set for the authorized client application, providing access to the location information for the at least one wireless communications device.

14. The method of claim **13** further comprising authenticating and authorizing the requesting client application upon receipt of the request for the location information for the at least one wireless communications device.

15. The method of claim **14** wherein authenticating and authorizing comprises:

accessing a client profile in memory associated with the requesting client application;
 receiving identification information from the requesting client application;
 comparing the received identification information with identification information stored in the client profile; and
 authenticating and authorizing the request for the location information if the received identification information substantially matches the stored identification information.

16. The method of claim **13** wherein the permission set further includes at least one of: total denial of access, limited access to a time period, access limited to a type of entity making the request, access only granted to request of particular granularity, and access based on user's geographic location.

17. The method of claim **15** wherein the client profile further includes at least one of: allowed location request types, time periods when the location requests are limited, limits on frequency of the location requests, granularity allowed of the location information provided, notification provisions for the at least one wireless communications device.

18. The method of claim **15** further comprising:
 detecting an access request for the client application profile for the requesting client application, wherein the request includes identification information for the requesting client application;

retrieving the client application profile from memory and presenting said profile to the requesting client application; and

detecting modifications to the client application profile and entering the detected modifications in the client application profile.

19. The method of claim **14** further comprising:
 detecting an access request for the client application profile for the at least one subscriber, wherein the request includes identification information for the at least one subscriber;

retrieving the subscriber profile from memory and presenting said profile to the requesting subscriber; and

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detecting modifications to the subscriber profile and entering the detected modifications in the subscriber profile.

20. The method of claim **13** further comprising processing the location requests received from client applications over a data network and directly from a location server.

21. The method of claim **13** wherein communications are processed by web browsers or wireless communications devices through a WAP gateway.

22. The method of claim **13** further comprising the step of initiating an automatic billing procedure upon a detected connection by the at least one client application.

23. The method of claim **13** further comprising the step of providing request throttling for the location requests.

24. The method of claim **13** further comprising the step of processing the location requests according to a priority assigned to the requesting client application and included in the client application profile.

25. A method of controlling access to location information for wireless communications devices operating in a wireless communications network, the method comprising:

receiving a request from a client application for location information for a wireless device;
 retrieving a subscriber profile from a memory, the subscriber profile including a list of authorized client applications and a permission set for each of the authorized client applications, wherein the permission set includes at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information;
 querying the subscriber profile to determine whether the client application is an authorized client application;
 querying the subscriber profile to determine whether the permission set for the client application authorizes the client application to receive the location information for the wireless device;

determining that the client application is either not an authorized client application or not authorized to receive the location information; and
 denying the client application access to the location information.

26. The method of claim **25** further comprising:
 notifying the wireless device that the client application is not authorized to receive the location information; and updating the subscriber profile to authorize the client application to receive the location information during subsequent requests.

27. The method of claim **26** wherein updating the subscriber profile is performed by a subscriber.

28. The method of claim **26** wherein updating the subscriber profile comprises updating the permission set for the client application.

29. The method of claim **28** wherein the permission set comprises at least one of a temporal permission set, a spatial permission set, a granularity filter, or a notification instruction.

30. An apparatus for receiving a request for location information for a wireless device from a plurality of client applications and controlling access to the location information, the apparatus comprising:

a first memory adapted to store a subscriber profile for the wireless device, wherein the subscriber profile includes identification information for the wireless device, a list of authorized client applications, and a permission set for each of the authorized client applications, the permission set including at least one of a spatial limitation on access to the location information or a temporal limitation on access to the location information;

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a first interface accessible over a data network, the first interface adapted to:
receive a request for location information from at least one of the plurality of client applications;
access the subscriber profile;
determine whether the at least one of the plurality of client applications is an authorized client application;
determine whether the at least one of the plurality of client applications has permission to receive the location information; and
provide the location information to the at least one of the plurality of client applications if the at least one

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of the plurality of client applications is an authorized client application and has permission to receive the location information.

⁵ **31.** The apparatus of claim **30** wherein the temporal permission set defines a time of day in which the authorized client application is allowed access to the location information.

32. The apparatus of claim **30** wherein the permission set includes at least one of a granularity filter or a notification instruction.

* * * * *

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Public Law 112-29
112th Congress

An Act

Sept. 16, 2011
[H.R. 1249]

Leahy-Smith
America Invents
Act.

35 USC 1 note.

To amend title 35, United States Code, to provide for patent reform.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) **SHORT TITLE.**—This Act may be cited as the “Leahy-Smith America Invents Act”.

(b) **TABLE OF CONTENTS.**—The table of contents for this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Definitions.
- Sec. 3. First inventor to file.
- Sec. 4. Inventor's oath or declaration.
- Sec. 5. Defense to infringement based on prior commercial use.
- Sec. 6. Post-grant review proceedings.
- Sec. 7. Patent Trial and Appeal Board.
- Sec. 8. Preissuance submissions by third parties.
- Sec. 9. Venue.
- Sec. 10. Fee setting authority.
- Sec. 11. Fees for patent services.
- Sec. 12. Supplemental examination.
- Sec. 13. Funding agreements.
- Sec. 14. Tax strategies deemed within the prior art.
- Sec. 15. Best mode requirement.
- Sec. 16. Marking.
- Sec. 17. Advice of counsel.
- Sec. 18. Transitional program for covered business method patents.
- Sec. 19. Jurisdiction and procedural matters.
- Sec. 20. Technical amendments.
- Sec. 21. Travel expenses and payment of administrative judges.
- Sec. 22. Patent and Trademark Office funding.
- Sec. 23. Satellite offices.
- Sec. 24. Designation of Detroit satellite office.
- Sec. 25. Priority examination for important technologies.
- Sec. 26. Study on implementation.
- Sec. 27. Study on genetic testing.
- Sec. 28. Patent Ombudsman Program for small business concerns.
- Sec. 29. Establishment of methods for studying the diversity of applicants.
- Sec. 30. Sense of Congress.
- Sec. 31. USPTO study on international patent protections for small businesses.
- Sec. 32. Pro bono program.
- Sec. 33. Limitation on issuance of patents.
- Sec. 34. Study of patent litigation.
- Sec. 35. Effective date.
- Sec. 36. Budgetary effects.
- Sec. 37. Calculation of 60-day period for application of patent term extension.

35 USC 1 note.

SEC. 2. DEFINITIONS.

In this Act:

(1) **DIRECTOR.**—The term “Director” means the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

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(C) an analysis of the legal issues, if any, that arise from such virtual marking; and

(D) an analysis of the deficiencies, if any, of such virtual marking.

(b) FALSE MARKING.—

(1) CIVIL PENALTY.—Section 292(a) of title 35, United States Code, is amended by adding at the end the following: “Only the United States may sue for the penalty authorized by this subsection.”.

(2) CIVIL ACTION FOR DAMAGES.—Subsection (b) of section 292 of title 35, United States Code, is amended to read as follows:

“(b) A person who has suffered a competitive injury as a result of a violation of this section may file a civil action in a district court of the United States for recovery of damages adequate to compensate for the injury.”.

(3) EXPIRED PATENTS.—Section 292 of title 35, United States Code, is amended by adding at the end the following:

“(c) The marking of a product, in a manner described in subsection (a), with matter relating to a patent that covered that product but has expired is not a violation of this section.”.

(4) EFFECTIVE DATE.—The amendments made by this subsection shall apply to all cases, without exception, that are pending on, or commenced on or after, the date of the enactment of this Act.

Applicability.
35 USC 292 note.

SEC. 17. ADVICE OF COUNSEL.

(a) IN GENERAL.—Chapter 29 of title 35, United States Code, is amended by adding at the end the following:

“§ 298. Advice of counsel

“The failure of an infringer to obtain the advice of counsel with respect to any allegedly infringed patent, or the failure of the infringer to present such advice to the court or jury, may not be used to prove that the accused infringer willfully infringed the patent or that the infringer intended to induce infringement of the patent.”.

(b) CONFORMING AMENDMENT.—The table of sections for chapter 29 of title 35, United States Code, is amended by adding at the end the following:

“298. Advice of counsel.”.

SEC. 18. TRANSITIONAL PROGRAM FOR COVERED BUSINESS METHOD PATENTS.

35 USC 321 note.

(a) TRANSITIONAL PROGRAM.—

(1) ESTABLISHMENT.—Not later than the date that is 1 year after the date of the enactment of this Act, the Director shall issue regulations establishing and implementing a transitional post-grant review proceeding for review of the validity of covered business method patents. The transitional proceeding implemented pursuant to this subsection shall be regarded as, and shall employ the standards and procedures of, a post-grant review under chapter 32 of title 35, United States Code, subject to the following:

(A) Section 321(c) of title 35, United States Code, and subsections (b), (e)(2), and (f) of section 325 of such title shall not apply to a transitional proceeding.

Deadline.
Regulations.

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(B) A person may not file a petition for a transitional proceeding with respect to a covered business method patent unless the person or the person's real party in interest or privy has been sued for infringement of the patent or has been charged with infringement under that patent.

(C) A petitioner in a transitional proceeding who challenges the validity of 1 or more claims in a covered business method patent on a ground raised under section 102 or 103 of title 35, United States Code, as in effect on the day before the effective date set forth in section 3(n)(1), may support such ground only on the basis of—

(i) prior art that is described by section 102(a) of such title of such title (as in effect on the day before such effective date); or

(ii) prior art that—

(I) discloses the invention more than 1 year before the date of the application for patent in the United States; and

(II) would be described by section 102(a) of such title (as in effect on the day before the effective date set forth in section 3(n)(1)) if the disclosure had been made by another before the invention thereof by the applicant for patent.

(D) The petitioner in a transitional proceeding that results in a final written decision under section 328(a) of title 35, United States Code, with respect to a claim in a covered business method patent, or the petitioner's real party in interest, may not assert, either in a civil action arising in whole or in part under section 1338 of title 28, United States Code, or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 (19 U.S.C. 1337), that the claim is invalid on any ground that the petitioner raised during that transitional proceeding.

(E) The Director may institute a transitional proceeding only for a patent that is a covered business method patent.

(2) EFFECTIVE DATE.—The regulations issued under paragraph (1) shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act and shall apply to any covered business method patent issued before, on, or after that effective date, except that the regulations shall not apply to a patent described in section 6(f)(2)(A) of this Act during the period in which a petition for post-grant review of that patent would satisfy the requirements of section 321(c) of title 35, United States Code.

(3) SUNSET.—

(A) IN GENERAL.—This subsection, and the regulations issued under this subsection, are repealed effective upon the expiration of the 8-year period beginning on the date that the regulations issued under paragraph (1) take effect.

(B) APPLICABILITY.—Notwithstanding subparagraph (A), this subsection and the regulations issued under this subsection shall continue to apply, after the date of the

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repeal under subparagraph (A), to any petition for a transitional proceeding that is filed before the date of such repeal.

(b) REQUEST FOR STAY.—

(1) IN GENERAL.—If a party seeks a stay of a civil action alleging infringement of a patent under section 281 of title 35, United States Code, relating to a transitional proceeding for that patent, the court shall decide whether to enter a stay based on—

(A) whether a stay, or the denial thereof, will simplify the issues in question and streamline the trial;

(B) whether discovery is complete and whether a trial date has been set;

(C) whether a stay, or the denial thereof, would unduly prejudice the nonmoving party or present a clear tactical advantage for the moving party; and

(D) whether a stay, or the denial thereof, will reduce the burden of litigation on the parties and on the court.

(2) REVIEW.—A party may take an immediate interlocutory appeal from a district court's decision under paragraph (1). The United States Court of Appeals for the Federal Circuit shall review the district court's decision to ensure consistent application of established precedent, and such review may be de novo.

(c) ATM EXEMPTION FOR VENUE PURPOSES.—In an action for infringement under section 281 of title 35, United States Code, of a covered business method patent, an automated teller machine shall not be deemed to be a regular and established place of business for purposes of section 1400(b) of title 28, United States Code.

(d) DEFINITION.—

(1) IN GENERAL.—For purposes of this section, the term “covered business method patent” means a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.

(2) REGULATIONS.—To assist in implementing the transitional proceeding authorized by this subsection, the Director shall issue regulations for determining whether a patent is for a technological invention.

(e) RULE OF CONSTRUCTION.—Nothing in this section shall be construed as amending or interpreting categories of patent-eligible subject matter set forth under section 101 of title 35, United States Code.

SEC. 19. JURISDICTION AND PROCEDURAL MATTERS.

(a) STATE COURT JURISDICTION.—Section 1338(a) of title 28, United States Code, is amended by striking the second sentence and inserting the following: “No State court shall have jurisdiction over any claim for relief arising under any Act of Congress relating to patents, plant variety protection, or copyrights. For purposes of this subsection, the term ‘State’ includes any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, American Samoa, Guam, and the Northern Mariana Islands.”.

(b) COURT OF APPEALS FOR THE FEDERAL CIRCUIT.—Section 1295(a)(1) of title 28, United States Code, is amended to read as follows:

CERTIFICATE OF SERVICE

I, William M. Jay, hereby certify that on November 13, 2015, I transmitted the foregoing “Appellant’s Opening Brief” to the Clerk of the United States Court of Appeals for the Federal Circuit through the Court’s CM/ECF filing system. Also on that date, I certify that the following counsel of record were served via the CM/ECF system:

Timothy E. Bianchi
Schwegman, Lundberg, Woessner &
Kluth, P.A.
121 South 8th Street
1600 TCF Tower
Minneapolis, MN 55402
Email: tbianchi@slwip.com

Adam R. Lawton
Munger, Tolles & Olson LLP
355 South Grand Avenue
35th Floor
Los Angeles, CA 90071-5160
Email: adam.lawton@mto.com

Joseph E. Mutschelknaus
Sterne Kessler Goldstein & Fox, PLLC
Suite 600
1100 New York Avenue, NW
Washington, DC 20005
Email: jmutsche@skgf.com

Jon Wright
Sterne Kessler Goldstein & Fox, PLLC
1100 New York Avenue, NW
Washington, DC 20005
Email: jwright@skgf.com

Peter Andrew Detre
Munger, Tolles & Olson, LLP
560 Mission Street
27th Floor
San Francisco, CA 94105
Email: peter.detre@mto.com

Michael V. Messinger
Sterne Kessler Goldstein & Fox, PLLC
1100 New York Avenue, NW
Washington, DC 20005
Email: MIKEM@skgf.com

Deirdre M. Wells
Sterne Kessler Goldstein & Fox, PLLC
1100 New York Avenue, NW
Washington, DC 20005
Email: dwells@skgf.com

Dated: November 13, 2015

By: /s/ William M. Jay